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EDITORIAL

RESEARCH AND INSTRUCTION IN ABNORMAL PSYCHOLOGY AT HARVARD

IN the January number of the JOURNAL we drew attention to the need of introducing research and instruction in abnormal and dynamic psychology in universities. We stressed this need because this field has been strangely neglected by academic psychologists, though it is a fertile one in phenomena that are essential for a comprehensive understanding of normal as well as abnormal mental processes.

And we called attention to the need of the use of the more exact scientific technique of the laboratory in addition to the inadequate clinical methods to which medical men are limited.

The desirability of providing instruction in abnormal psychological phenomena for those students who intend to enter the medical profession was also insisted upon.

We are now glad to be able to announce that an anonymous benefactor, impressed by these needs, to which we have called attention, has donated a fund to Harvard University to found a chair of abnormal and dynamic psychology for research and instruction. The University has accepted this gift in accordance with the terms of the donor. As this is a new field without precedent and tradition the plan of organization by which it may function and carry out the purposes intended is of interest.

The new chair will be a part of the general psychological department. The primary aim will be scientific research. In filling the chair the plan is to appoint, preferably, a medical man, clinically and scientifically experienced in this field. It is expected that a number of voluntary assistants will also be attached to the

department, after the custom of hospitals which appoint voluntary externes or internes, as the case may be, as assistants to a chief. These will probably be annual appointments. In this way an opportunity will be afforded to young men to become familiar with abnormal phenomena and trained in the examination and diagnosis of pathological cases and in the technique of research.

For clinical material for purposes of research arrangements will be made for coöperation with the hospitals of Boston, particularly the Psychopathic Hospital, which has generously volunteered to place cases suitable for study at the disposition of the department, to the mutual advantage of each.

A small quasi-clinic for selected cases—selected according to the particular problems under investigation—will be attached to the department.

Physicians who have suitable cases requiring study and unable to pay fees will be invited to refer them to this clinic. Undoubtedly much material will be obtained in this way as it is the common experience of physicians who specialize in the psychoneuroses that they have many applications from patients who are unable to pay the usual fees and who would be glad to offer themselves for research, inasmuch as a scientific investigation of a case usually results in cure. One might say a successful research spells cure. Thus therapeutics becomes a by-product of research. There need be no fear of dearth of material for both scientific research and clinical experience. But an important consideration for the successful functioning of the department is that its personnel will be expected to keep in close contact with the hospital clinics.

On the educational side courses of lectures in dynamic and abnormal psychology will be offered to undergraduate students. We understand these will be primarily designed, but not wholly, for instruction as a premedical course for those intending to enter the medical school. Probably in time, as experience is gained and the department develops, graduate students, particularly of the medical schools, will be given an opportunity to take this course. Thus, it is hoped, post-medical instruction will be open to young graduates in medicine and physicians will be trained in a knowledge of the psychoneuroses or functional nervous diseases. This class of cases, of which there is now a lamentable ignorance on the part of the profession generally, makes up a goodly proportion of the practice of every physician.

For those without practical experience in this field of psychol-

ogy the following summary in outline of the subjects which come within its scope will be of interest.

FIELD OF RESEARCH

Obsessions, hallucinations, visions, delusions, impulsions.

Amnesias, inhibitions, repressions, dissociations, moods, alteration of personality and character.

Conflicts and their protean manifestations.

Mental mechanisms.

Emotions, instincts and instinctive behavior.

Human motives and "Drives".

"The Subconscious", "Unconscious", "Coconscious"; Awareness; subconscious mental processes and behavior. (Subconscious motor and sensory phenomena, perception, conflicts, inhibitions, influence on conscious processes, subconscious intelligence, etc.)

Dreams, hypnosis, etc.

Feeblemindedness and its social, educational, vocational, clinical and delinquent problems.

States of excitement and depression and other mental phenomena, which are the basic manifestations in psychoses and psychiatry in general.

Methods of mental exploration and treatment (hypnosis, psychological analysis, suggestion, reëducation, etc.).

In congratulating Harvard on being the pioneer American University to introduce this field of research and instruction into its curriculum, we believe that we can foresee that her example is destined to be followed by other universities.

CONTROL EXPERIMENTS IN RELATION TO IDENTIFICATION OF SPEECH SOUNDS BY AID OF TACTUAL CUES [1]

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MY EXPERIMENTS on "Tactual Interpretation of Speech" have been reported from time to time on the assumption that discrimination of the forms of speech has been accomplished by aid of the sense of touch and that alone: that neither hearing through the air nor hearing by way of bone conduction to the inner ear is a factor in the total situation. Indeed it is not quite accurate to use the term "assumption" in this connection, because from the very beginning of the work three years and more ago I have, I believe, successfully eliminated hearing from the picture.

In this paper it is my plan to describe the controls by which I have satisfied myself at any rate upon this point.

Before I proceed let me describe briefly the mechanical devices that are in use, the method of experiment, and after that add a few words by way of cataloging the results of experimentation.

The subjects to the number of six are seated together in the reaction room. Each one holds in his hand a disk-shaped receiver analogous to the ear piece in a telephone system. A high quality transmitter is at the mouth of the speaker in another room 35 feet distant. Between the transmitter and the receiver is a three tube amplifier.[2] The transmitter is operated by three dry cells. In addition the system requires a six volt "A" battery and a 110 volt "B" battery.

When now the experimenter speaks into the transmitter the subjects feel the vibration of the receivers against their hands or against the tip of a finger according to their method of holding the instrument.

A group of stimuli such as words or sentences or vowel or

[1] The author is indebted to his assistants, Mr. George Crane and Miss Marné Lawritzen for their great aid in these experiments.

[2] All the apparatus mentioned to this point I owe to the coöperation of the Bell Telephone Laboratories of New York City from which I have the material as a loan.

diphthongal values or vowel-consonant combinations is displayed upon the wall of the reaction room or upon a blackboard. After a certain amount of drill upon the stimuli—an assistant pointing to each word as it is pronounced and trying to direct the attention of the subjects to differentiæ—they are pronounced in an unknown order in series of ten until two, three, four or more series have been completed. The subjects meanwhile with pencil and paper in hand are trying to make identifications.

A brief statement as to results: during the last five days in November the records of five subjects showed that they identified 25, 29, 31, 45 and 70 per cent of tactual words when each word might have been any one of sixty-six. The figures I have quoted represent an advance over the record of the corresponding period a month earlier of 14, 8, 9, 25 and 11 points respectively. During these five days each subject had opportunity to make approximately 150 identifications of words.

Corresponding results of attempts by the same cases to identify members of a group of ten vowel and diphthongal values and vowel-consonant combinations are equally interesting. The stimuli in this instance are as follows: A, E, I, O, U (the names of the characters), Oi, Ou, Er (middle western), Oo (as in boot) and Aw. During the last five days in November their average per cent of identifications was 39, 45, 69, 69, and 80. This represents a gain during the month of 13, 20, 31, 27 and 20 points respectively. Each subject during these days had 150 opportunities to make an identification.

All our drill has borne additional fruit and I shall cite but one illustration. The names of the days of the week had never been felt by our cases prior to November 25, 1925. On that day the stimulus words (names of days) were written upon the blackboard with marks upon each one to draw attention to the elements within it (such as Er, I, etc.) upon which tactual drill had already been had. There was no other preparation for the test. The words were pronounced into the system. Each subject had from 20 to 80 opportunities to make an identification—depending upon his laboratory schedule. The grand total of opportunities was 280. The actual number of identifications of these new and unpractised terms was 161 for all subjects, good, bad and indifferent. By mere chance they could have identified only 40. The interpretation of new sentences composed of old words presents an even more imposing picture.

What I have reported here is sufficient to provoke the question:

"What controls have you used to satisfy that the results have been attained through the tactual sense alone, and not at all by way of hearing, whether through the air or through bone conduction to the inner ear?" From a practical point of view this question possesses no interest. For if by all means together these folk can be made to understand speech, well and good. It is only in the interest of scientific statement and for the purpose of assuring myself as to the possibilities of touch alone in this relation, that certain controls have been instituted.

In the first place, as a partial control against both forms of hearing we have selected deaf subjects whose audiometric records (speaking now of the last academic year) ranged from 0 for one ear and 10 for the other to 50 for one ear and 55 for the other. During the present year the audiometric records of our subjects range from 0—0 to 50—55.

Because all subjects who belonged to the same group worked under the same conditions it will be interesting to compare two cases whose audiometric records are widely different, as to their accomplishment in a given piece of work throughout a given period.

Take for instance a case whose audiometric record is 50—55 and another whose record is 10—15. The former is congenitally deaf; the latter adventitiously deaf at three years of age. Both began working with the stimuli A, E, I, O, U, Oi, Ou, Er, on March 11, 1925, and in this connection I am following them to May 20, 1925.

During this period the subject with the greater amount of residual hearing made 59.2 per cent of identifications of the eight stimuli named above, while the other made a score of 56.1 per cent on the same stimuli.

The difference between these results can probably be accounted for on the ground that the subject who made the lower score missed approximately one-eighth of the exercises during the period, whereas the other was all but perfect in attendance.

But the most satisfactory control is in our experience with a subject whose audiometric record is 0 in each ear: a young woman twenty-two years of age and congenitally deaf. Workers among the deaf would describe her as having fair speech ability for a child born deaf. I do not know how to describe her intelligence level nor her alertness. Her progress in school, her manner of moving about and her attitude of keen attention during a labora-

tory session suggest a high level of alertness. She is not a good lip-reader.

Prior to the 16th day of October, 1925, this girl, Miss C., had had no experience whatever in our laboratory. She had not even visited it. On that day we put her into a group of four others who had been our subjects during the whole of the preceding academic year and who had worked at a variety of exercises during an aggregate of fifty-five hours. One of the four, furthermore, had acted as a subject during four weeks in June and July, 1925, an aggregate of approximately sixty hours divided amongst three types of drill.

No attempt was made to bolster up the new subject by giving her special attention beyond what was allotted to others of the group. She has appeared at the laboratory twice daily on four days of the week and once on a fifth day. The others came in twice daily five days a week. Each session is approximately forty-five minutes in length.

During one of these daily sessions the subjects were being drilled on the tactual correlates of certain vowel and diphthongal qualities—ten in all: A, E, I, O, U (the names of the characters), Oi, Ou, Er (middle western), Oo (as in boot), and Aw.

These stimuli are pronounced in series of ten. Occasionally one is omitted and one repeated to make up the ten; this to eliminate aid to the guesser. In this situation every impression upon the skin may mean any one of ten stimuli. One could guess and be correct in approximately 10 per cent of instances.

The chart "A" below indicates the degree of success that C. met in her attempts at identification during her first five sessions beginning with that of October 16. This is contrasted with chart "B" which is the record of N., congenitally deaf, but with an audiometric record of 50 for one ear and 55 for the other. If either of these girls can hear through the air or through bone conduction, certainly it is more probable of N. than of C. Furthermore it is pertinent to record the fact that N. practiced upon the first five of the stimuli I have named throughout the period March 11 to April 10, 1925, five times a week during sessions of approximately 25 minutes in length. Following April 10 and until May 9 she was drilled in like manner upon the first eight of the ten stimuli. She therefore came to the work on October 16 with a considerable advantage over C. During the last named period, April 10 to May 9, N. had made identifications in 59.6 per cent of the possibilities, when she could have guessed right in approxi-

mately 13 per cent of cases. During the first five sessions beginning October 16 she made identifications in 60.8 per cent of instances when she could have guessed right in approximately 10 per cent of cases. This, the reader will recall, is the record of a

CHART A

Per cent of Identifications and Confusions.

SUBJECT C.: AGE 22. AUDIOMETRIC, 0—0. CONGENITAL

	A	E	I	O	U	OI	OU	ER	OO	AW	Total
A	*33.3*	19.0	9.5	4.7	19.0			14.2			21
E	16.6	*62.5*		8.3	4.1				8.3		24
I	13.6		*18.1*	22.7	13.6		9.0	13.6	9.0		22
O	9.0		22.7	*22.7*		22.7	9.0	9.0	4.5		22
U	17.3		4.3		*30.4*			39.1	8.6		23
OI			11.7	11.7	5.8	*47.0*	17.6	5.8			17
OU				15.0		20.0	*50.0*		5.0	10.0	20
ER	25.0			20.0	25.0	5.0		*15.0*	10.0		20
OO					33.3		6.6	40.0	*20.0*		15
AW				12.5			25.0			*62.5*	18

First five of 20 sessions, beginning October 16, 1925.

CHART B

Per cent of Identifications and Confusions

SUBJECT N.: AGE 20, AUDIOMETRIC, 50—55, CONGENITAL.

	A	E	I	O	U	OI	OU	ER	OO	AW	Total
A	*36.3*	6.0	2.4	9.0	6.0			1.3	6.0		21
E	3.8	*92.3*	3.8								24
I	12.5	3.1	*68.7*	9.3			6.2				22
O	11.1	7.4	7.4	*55.5*		14.8		3.7			22
U	15.3	7.6			*73.0*						20
OI	4.5		9.0	13.6		*45.4*	9.0	18.1			17
OU				5.0		20.0	*60.0*	15.0			20
ER	19.0			14.2		14.2		*47.6*	4.7		20
OO			5.2			10.5	5.2		*78.9*		15
AW				8.5	8.5		16.6	8.5	8.5	*50.0*	18

First five of 20 sessions beginning October 16, 1925. Considerable earlier experience.

girl whose residual hearing, as determined by the audiometer, is 50—55 and who had many hours of training prior to October 16, 1925.

Miss C. who, if I may repeat, had no training prior to October 16, and has no residual hearing measurable by the audiometer, made identifications by touch in 36.2 per cent of trials in the course of her first five sessions—and there were 194 trials upon all ten stimuli. In the course of these same sessions N., with a residual hearing of 50—55, surpased C. by 24.6 points. In the course of the *last five* sessions N. made identifications in 78.8 per cent of

cases and C. in 72.0 per cent. Here is a difference of approximately seven points.

It seems evident to me that in these two cases (as a matter of fact in C. alone) we have a control that leaves but one conclusion: that an observer can learn, in short space, to distinguish the ten stimuli I have named above *by touch alone without involvement of hearing,* and that he can do it with a high degree of accuracy.

CHART C

Per cent of Identifications and Confusions.

SUBJECT C.: AGE 22. AUDIOMETRIC, 0—0.

	A	E	I	O	U	OI	OU	ER	OO	AW	Total
A	*50.0*	18.7						31.2			15
E	13.3	*86.6*									15
I			*60.0*			40.0					15
O			6.2	*62.5*		6.2		6.2	12.5	6.2	15
U	6.6				*93.3*						15
OI				15.3		*84.6*					15
OU				12.5			*81.2*		6.2		15
ER	21.4		7.1		7.1			*57.1*	7.1		14
OO		6.6			6.6		6.6	20.0	*60.0*		15
AW				14.2						*85.7*	15

Last five of 20 sessions beginning October 16, 1925.

CHART D

Per cent of Identifications and Confusions

SUBJECT N.: AGE 20. AUDIOMETRIC, 50—55.

	A	E	I	O	U	OI	OU	ER	OO	AW	Total
A	*73.3*	6.6	6.6	6.6				6.6			15
E	20.0	*80.0*									15
I			*93.3*								15
O				*53.3*				40.0	6.6		15
U					*100.0*						15
OI			13.3			*73.3*				13.3	15
OU							*100.0*				15
ER	14.2	7.1	14.2	14.2				*42.8*	7.1		14
OO								7.1	*85.7*	7.1	15
AW						13.3				*86.6*	15

Last five of 20 sessions beginning October 16, 1925.

CHART E

Per cent of Identifications and Confusions

SUBJECT C.: AGE 22. AUDIOMETRIC, 0—0.

	A	E	I	O	U	OI	OU	ER	OO	AW	Total
A	*48.5*	18.8	5.0	2.0	11.0			13.9	1.0		101
E	18.0	*63.8*	8.4		3.6		1.2	3.6	1.2		83
I	4.4		*48.3*	16.9	6.7	7.8	7.8	3.3	4.4		89
O	3.4	2.3	13.7	*51.7*	3.4	6.8	5.7	4.6	4.6	3.4	87
U	17.6	2.3		1.1	*45.8*		1.1	22.3	9.4		85
OI			8.3	7.1	2.3	*75.0*	4.7	1.1	1.1		84
OU	1.1			10.0		7.7	*57.7*	3.3	4.4	15.9	90
ER	11.7			7.4	11.7	2.1		*43.6*	22.3	1.0	94
OO	1.0	1.0		1.0	12.6		1.0	34.7	*45.2*	3.1	95
AW				9.7		1.2	15.8		6.1	*67.0*	82

Twenty Sessions beginning October 16, 1925.

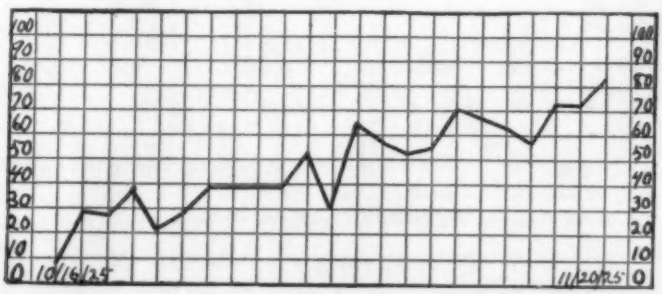
CHART F.

Per cent of Identifications and Confusions

SUBJECT N.: AGE 20. AUDIOMETRIC 50—55.

	A	E	I	O	U	OI	OU	ER	OO	AW	Total
A	*52.8*	10.6	11.4	7.3	0.8	0.8	0.8	13.8	1.6		123
E	7.8	*90.1*			1.0				1.0		102
I	6.3	2.7	*71.8*	4.5		3.6	4.5	4.5	1.8		110
O	4.5	1.7	1.7	*69.9*	1.7	4.5		7.0	6.1	2.6	113
U	6.6	2.8			*89.6*		0.9				106
OI	1.0		8.4	3.1		*48.4*	8.4	12.6	1.0	16.8	95
OU			3.9			5.9	*85.1*	1.0	1.0	2.9	101
ER	18.4	1.0	4.8	7.7		4.8	1.9	*50.5*	8.7	1.9	103
OO	1.8		0.9	1.8		1.8	1.8	10.1	*77.7*	3.7	108
AW	2.1		1.0	4.3		13.0	2.1	7.6	1.0	*68.4*	92

Twenty sessions beginning October 16, 1925.



Learning curve of Subject C. Andrometric record O for each ear. Congenitally deaf. Represents learning experience from October 16, 1925 to November 20, 1925. Twenty sessions of 40 minutes each. Stimuli same as indicated in charts above.

We have not left the question, however, at this point. Let it be granted that our 0—0 girl can make the distinctions in which we are interested, obviously without hearing. Is it not probable for all of that that our subject whose residual hearing is 50—55 may hear through the air and so complicate the experiment as far as she herself is concerned?

On December 18th we put her through the mill. While she held the receiver in her hand resting upon her lap as in the routine procedure she identified 16 in 20, or 80 per cent of vowels and diphthongs. She identified 17 in 20, or 85 per cent of the same stimuli when her hand grasped the receiver within an approximately sound-proof apparatus. During the last four days of our regular procedure she identified an average of 86 per cent of the same stimuli.

On the same day we tested her in a similar manner employing isolated words as stimuli. In the first place twenty words were pronounced while she held the receiver outside the sound proof device. Each word as it was felt might be any one of a vocabulary

of 66. The subject made a score of 0.85. The average index of identification of the same words during 43 previous sittings was 0.59.

In the next place we selected 20 other words from the same vocabulary of 66 and gave her an opportunity to make identifications while her hand was inside the soundproofer. In this situation her score was 0.65. The average index of identification of these words during 43 previous sessions was 0.62. Miss Lauritzen, an assistant who has normal hearing, was sitting with the subject during all this procedure. She got no auditory cues. It seems obvious enough that the scores I have quoted can be made *without the aid of hearing through the air.*

But there still remains the interesting question whether it is possible at all in our conditions for even a normally hearing person to grasp the stimuli I have mentioned by aid of hearing through bone conduction to the inner ear. At the outset, without experiment, it must appear extremely improbable to any one who understands the situation; for at most the stimulus is not intense. It is applied to the palm of the thumb or to the palm of the hand. The cushions of flesh and of cartilage plates in the joints and in the shoulder and cervical region undoubtedly neutralize considerable shocks upon the hand and so prevent their reaching the solid bone around the inner ear. This is at least a very plausible guess.

But notwithstanding such considerations, we undertook to put the question to the test experimentally. And here I describe the sound proofing device to which I have already been referring. We made a cylindrical bag of bed-ticking 32 inches in diameter and 32 inches high. This was filled with 20 bushels of sawdust and a cover was sewed in. Through the cover and into the heart of the mass of sawdust we then inserted a pocket of hair-felt that had been covered and lined with bed-ticking. It was large enough in diameter to allow one comfortably to close one's fist at its inner extremity. In the next place we prepared a truncated cone of hair-felt about one foot in length. At its base it is of such diameter as to allow it to fit snugly around the arm at the elbow. At its smaller end it is just large enough to allow the hand to pass through. Now when the hand and forearm are thrust through the truncated cone, and when the arm and its envelope are pushed into the hair-felt pocket in the center of the sawdust we have a good insulator against the transmission of sound waves from

within the pocket outward, assuming that the receiver end of our apparatus is inside the pocket and active there.

The method of testing for bone conduction is as follows: an unprejudiced observer is selected; his ears are stopped with small corks or other material; he is seated close to the bag of sawdust, but without contact with it; an assistant takes in his hand one of the receivers that is in use in the ordinary course of the experiment and thrusts his hand with the receiver through the hair-felt envelope and into the pocket of the same material that has already been described. Inside the pocket the assistant holds his thumb against the diaphragm of the receiver so as to damp its action in the course of the test precisely as it is damped in the regular procedure. The experimenter takes his place before the transmitter in a distant room and pronounces a series of stimuli. The assistant whose hand is in the pocket is aware by touch of each successive stimulus. On each occurrence he signals the observer who then, by guess or otherwise, makes a report naming one or another of the stimuli, the written signs of which are at his hand. He knows in advance that the stimuli will be drawn from the list before him, but he does not know the order of their occurrence. His report is recorded. If now he makes more than a chance number of correct reports the inference is that his guessing has been aided by some auditory cues through the air.

After at least twenty stimuli have been presented in this fashion the observer is seated at the same distance from the bag as before, but with his own hand grasping the receiver inside the pocket. He now has a tactual impression of each stimulus in succession and he has the same opportunity to hear through the air that existed in the earlier situation. The theory of the test is that if hearing by bone conduction to the inner ear occurs in any degree in our conditions the observer ought to give a larger proportion of correct reports in the second situation (own hand on the receiver in the pocket) than in the first (own hand not in the pocket and not in contact with the receiver).

On December 4 Mr. George Crane acted as observer in the situation I have been describing. The stimuli were 20 one-syllabled words as follows: black, made, chart, have, wood, ink, please, goose, bell, wrist, deal, cause, speech, desk, board, room, noise, duck, year, sound. The observer made one identification when his hand was in the pocket upon the receiver, and one in the other situation.

But Mr. Crane has been associated with this experiment since its beginning and he may be a prejudiced, though honest, witness.

On December 9, therefore, we enlisted Dr. G. M. Stratton against whom the charge of prejudice in this relation can hardly be brought. In his case the stimuli were the vowel and diphthongal sounds that have already been quoted in this paper. They were pronounced in a series of 20 in each situation. There was a possibility of making approximately two correct guesses in each series—if one were guessing. In each situation Dr. Stratton made three correct reports; and the conclusion is that when his hand was upon the receiver within the pocket he was not obtaining any cues by way of bone conduction to the inner ear. A further inference is that if a man of approximately normal hearing obtains no such cues in the conditions of our experiment it is impossible for our deaf subjects, even for the one with most residual hearing, to obtain similar cues in the regular experimental procedure.

GESTALT vs. CONCEPT AS A PRINCIPLE OF EXPLANATION IN PSYCHOLOGY

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IN CONSIDERING the new explanations suggested by the *Gestalt* school most psychologists have difficulty in seeing that they are different or how they are different from the older ones. A considerable amount of perplexity seems to have arisen concerning their doctrines just from this fact. The specific contributions seem easily convertible into older doctrines, if they are not stated in the older terms. The slightness of the difference and the great insistence by members of the school of the importance of the difference makes it worth while to attempt to state in a formal way in what that difference consists.

If we may make first a formal statement of the thesis that we desire to establish it may be an aid to clear understanding. Their position is that the form or the whole with which analysis must begin is a more important factor than the separate factors into which the whole may be analyzed in explaining any given phenomenon. For the members of other schools, at least, this point is obscured by the fact that they too analyze the given into concepts, but insist all of the time that the form alone is to be considered as the important phase of the explanation. It is not the analysis that they make, which is usually entirely acceptable to all schools as they give it, which they insist upon, but the whole that exists in advance of and persists through all analysis. My purpose is to determine, if possible, whether the two ideals are different, and, if so, how. Then we may ask if the differences are irreconcilable.

We may begin by seeing in what sense they use the term form or *Gestalt*. It is obvious to any one but a member of the school that form is not given the ordinary meaning of the word. When the learning of an ape is said to depend upon form, as when Koehler explains the sudden learning of Sultan to discriminate between sticks of different lengths as due to the formal element, it is hard to see how that use of the term is related to our every day one. A large part of the difficulty in understanding the position of the new school is owing to the fact that they have extended the

notion of their fundamental word far beyond any that had hitherto been given it, without making clear or seeming themselves to appreciate that they have thus extended it.

We may be excused from going into all the details of the many changes in the definition that they have introduced. Our purpose is merely to point out the fundamental differences between what they consider an explanation and the ordinary conceptual explanation and this we may do if we choose a few samples of the changes they have introduced without an exhaustive review of all of them. We may mention four characteristics of the form that they regard as essential. In the first place a form is a form when it is a closed system. Köhler insists against Mueller in *Gestalttheorie und Komplextheorie* that this unity is self-dependent and cannot be enforced upon its constituents by any outside activity such as attention. The argument for this is, however, only that two processes that do not belong together cannot be put together by being attended to. There is no consideration of the fact that attention itself may be nothing more than a name for the laws that state the conditions under which elements come to be connected as units. Nothing can be admitted as an explanation but the single word form.

In the second place the form is characterized by the fact that the elements that go to compose it are not independent entities that can in any way be regarded as having a quality apart from the whole. Rather, they derive their essential characteristics from the whole in which they belong. It is in this sense that Koehler argues that they cannot be united by attention. As parts of the formal whole they cannot become different from what they were before. They cannot be conceived significantly except as parts of the form in which they are perceived. Thus Koffka quotes Koehler as saying that his apes could not see how two rods could be joined to make a single longer rod until they were appreciated as parts of the final unitary form. It is form that makes possible the appreciation of how to join them.

Thirdly, as a corollary, all parts of the elements that constitute a formal unit must by that very fact mutually influence each other. This law is extended to make all the perceptions of a single individual belong, in some degree, to a single form or whole. In other words, all parts of the experience of an individual interact. This law, it should be insisted, has frequently been recognized by other writers both from the side of the nervous system and as an expression of the influence of earlier upon later experiences. The

only question that need be raised here is why it should be connected with *Gestalt* and with *Gestalt* alone.

Fourth, in many respects, form becomes practically synonymous with meaning, for meaning is a character that is given to any experience when it is related to other experiences or to other parts of the same experience. The school we are discussing asserts that it is the presence and action of the total "form" in that single part which gives the new effect. Koffka again in quoting Koehler asserts this most clearly. I mention both the original and the quotation that the interpretation may have the warrant of both authorities. There, it will be remembered, it is said often that mere repetition of a movement, no matter how often, had no value in teaching, until suddenly the animal realized the whole of which the element formed a part. Then mastery was completed at a stroke. A single repetition sufficed where previously a great number had been without effect. This appreciation of connections has long been recognized and much discussed under the name of meaning and many attempts, with gradually increasing success, have been made to analyze it.

As was said in the beginning, few psychologists would deny the importance of these four factors as important to the explanation of any psychological process, or at least to those to which they have been applied. Certainly the present writer would not. The only question that can be raised is whether the form notion is primary and explains each of the factors mentioned, or whether form itself takes on meaning from the characteristics and functions that are ascribed to it and would have no value without them. This problem takes us back to the question of the general nature of understanding.

On the whole, science in its development has recognized two methods of explanation. One merely names a phenomenon and assumes that nothing else is necessary. The other seeks to find similarities between the phenomenon in question and others that are already in some degree familiar. The second seems to have survived in the sciences in general. We can understand anything only in so far as we can see in it something that we already know. The tendency is to reduce all complicated phenomena to the fewest possible types and these of the simplest possible character. These we call concepts. The chemist has not been satisfied until he has referred his separate observations to combinations of a relatively few simple substances, and now would still farther reduce these to different forms of rotation of electric charges. The physicist

would see in any complex expressions of a very few simple forces. Analysis is the aim of all science.

As opposed to this the *Gestalt* psychology seems to insist that an explanation shall consist in the reference of the parts to the whole in which they were originally found. At times it seems that the important thing for them is the application of the name "form", and this name must be applied to all phenomena. However different the phenomena may appear at first sight, they always prove on closer examination to have some similarity with form and are to be regarded as explained when referred to that general term.

We all admire the many careful investigations of the school and shall make good use of their results. The only question that we desire to raise is whether the analyses in which these experiments have resulted are to be explained by reference to form, or the word in their sense has been enriched and developed, if not explained, by the analyses to which they have subjected it. In brief do we know any more about belonging to a whole, the mutual interaction of part upon part, the dependence of the quality of the part upon the whole to which it belongs, and having meaning after we have said that they depend upon form than we did before? Is it not rather true, that the analyses that have been made of form as they use it have given it a meaning that it did not have before and that it has now only when thought in connection with these results?

That the members of the *Gestalt* school themselves appreciate the advantages of analysis is shown by the fact that they have gone so far in the resolution of the notion of form into the factors that make it up. They are not content, as were the vitalists, to leave their principle of explanation as a mere word, nor do they give it any anthropomorphic character, that might seem to endow it with a pseudo-efficiency. Their investigations have contributed richly to the factual side of each of the problems they have attacked. They have recognized many new factors or concepts in each. These have enriched the notion of form and without this making definite of what is meant by form there could have been no possibility of using the notion as an explanation of concrete phenomena. The wealth of results from their own work justifies the method of analysis as such. Without these to give interpretation to the word, the bare statement that "form" is the final explanation of motion or of learning would have no justification, whatever. If a man had said in 1900 that sudden improvement in

the activity of an ape had been due to its appreciation of form, he would not have been taken seriously. That it is taken seriously to-day is due to the new elements that these investigations have introduced into the notion, rather than upon the application of the word itself. To my mind it is the separate factors that have been put together to mean "form" that give it explanatory value and not the application of the word.

One other possible advantage of the recognition of the whole is that it recognizes the ever present necessity for further analysis. I am not sure that the school we are discussing emphasizes this point. We are sometimes inclined to believe that the results of our analysis at any time constitute the real object analyzed. One might argue that it was the whole from which we started, not the single elements we had picked out that constituted reality, and so determined the truth of any statement. At the same time, it is only the products of analysis at the given stage that are of value in an explanation and the whole is nothing more than a new potentiality of further progress. This can be recognized without ascribing dynamic possibilities to the whole or form.

In closing I again desire to emphasize the agreement that I, with all of the other psychologists of my acquaintance, have with the *Gestalt* school. Every statement of concrete fact that they make and each of the analyses of phenomena that they present is a distinct contribution. I hope that much more work of the same kind may be done. My one point of disagreement is to the assignment of the whole from which the separate factors are analyzed, as the explanation, rather than the partial concepts that result from the analysis. I would deny that one unanalyzed concrete phenomenon can be used as an explanation of its parts, or to understand another concrete phenomenon unless points of identity can be established between them. And then the real explanation would lie in the identical elements into which both were analyzed. When one sees that meaning is a common factor in the recognition of form and in ease of learning, analysis of the meaning still further offers chance of a real causal explanation. Mere assertion that the form makes sense material easier to learn than nonsense seems less important. In other words, if I may repeat yet again, I believe that the real virtue of an explanation in their work is to be found in the concepts that they have introduced incidentally, and that the elements they have used to define the term *Gestalt* offer the real explanation of the results that they have obtained.

EMOTION AND THE INCIDENCE OF DISEASE

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AS BELONGING to a wider survey of emotion, parts of which have already been published,[1] I wish to make a preliminary report concerning the relation of emotion to the individual history of normal persons in regard to disease.

The questions which might serve to define the problem are these. In persons of what we might call normal health does their present emotional life differ according to the character of their own past with respect to disease? Do those who have been ill of certain diseases but have now recovered show in their emotions that they are different from those who have never been subject to these disorders? I have confined my attention to the emotions anger and fear because I could more readily get evidence of these, and I was naturally limited, as we shall see, to certain diseases of more frequent occurrence in a fairly healthy college population of young men and women.

The method employed, with all its obvious shortcomings, has at least negative virtues. Although reports from laymen are used, yet these reports leave little to the judgment of the person whose emotional responses are being reported. He does not have to decide whether his emotions are stronger or weaker than those of his fellows; he is not required to compare himself with them and classify his reactions relative to them. Nor is he asked to imagine how he would behave, or give any generalized recollection of how he has behaved. Nor does he have to report upon particular events which have become vague in his memory. There is no use made of the questionary, in the usual meaning of the term. More posi-

[1] See the following by the present writer:
"The Sensations are not the Emotion." *Psychological Review*, v. 2, pp. 173–174.
"Retroactive Hypermnesia and Other Emotional Effects on Memory," *Psychological Review*, v. 26, pp. 474–486.
"The Color Red, and the Anger of Cattle," *Psychological Review*, v. 30, pp. 321–325.
"Cattle, and Excitement from Blood." *Psychological Review*, v. 30, pp. 380–387.
Anger: Its Religious and Moral Significance, 1923.
"An Experience During Danger, and the Wider Functions of Emotion," in *Problems of Personality*. Studies in honor of Dr. Morton Prince, 1925.
"Psychological Reactions During Danger." *Scientific Monthly*, v. 21, pp. 633–637.
And also
HUGH C. BLODGETT: "A Further Observation on Cattle and Their Reactions to Blood," *Psychological Review*, v. 31, pp. 336–339.
BEULAH M. MORRISON: "A Study of the Major Emotions in Persons of Defective Intelligence," *University of California Publications in Psychology*, v. 3, pp. 73–145.

tively, it makes it possible for the experimenter to arrive at a certain quantitative score which can be used in various directions for correlation.

Our method was this. To each person who was to report, there were given brief printed descriptions of about twenty mildly anger-provoking situations such as the following: "A friend of yours is unjustly criticized in your hearing". "A stranger jostles or crowds you without apology". And the person who is to report is asked to record as soon as possible after any of the situations may actually have arisen, which of six possible grades of reaction was his own. These six grades, described for him and given him in print, range from "(1) You are not annoyed or irritated in even the slightest degree", through "(2) You are slightly annoyed, but there are no physical symptoms of emotion, so far as you can notice", up to "(6) You are stirred to passionate, violent anger; your physical as well as your mental equilibrium is upset; and one or more of the following physical symptoms are present: trembling, nausea, loss of appetite, inability to talk coherently, pallor, weeping". And similarly for fear. From the grades thus obtained from a single individual for anger or for fear, separate composite scores were made for each emotion for that particular individual.

The subject, after a given situation had occurred, was asked to jot down upon a form given him the date and hour and approximately the minute of its occurrence; together with a capital letter which told which of the described situations had occurred; a Roman numeral which told the character of his response; and finally the day, hour and minute of entering his record. Only those records were used which were made upon the day of the emotional reaction itself. The persons who made these reports had no knowledge of the problem which, it was hoped, their reports would help to solve. Their personal histories were obtained from official records of the University Infirmary, without their knowledge. And in the meaning of a history of disease, it was decided to include any of the following: appendicitis, asthma, Bright's disease, constipation, diphtheria, encephalitis, headache, heart trouble, infantile paralysis, infections (inflammation of bowels, discharging ear, etc.), influenza, malaria, meningitis, neurasthenia and nervousness, pleurisy, pneumonia, rheumatism, scarlet fever, smallpox, St. Vitus' dance, tonsilitis, tuberculosis, and typhoid fever.[2]

[2] Let it be understood that in such expressions as "with a history of disease" and "without a history of disease," the word "disease" is throughout this paper to mean any of the twenty-three particular diseases here named.

Reports with regard to fear were obtained in successive years from two different groups of individuals; and with one of the groups the experiment was, after an interval of some months, repeated. Not all in either group reported, nor did all who reported once respond a second time. Thus about 700 fear reports were had from about 650 persons. For anger the same general plan was followed, but now with a repetition of the experiment not only in successive years, but with each and both of the two groups. Thus about 1350 anger reports were obtained from about 900 persons. In all, the present study is based upon more than a thousand different individuals, who made over two thousand reports.

Care was given to have the good will and a sense of responsibility of the persons who made these reports. In more than half the trials there was the explicit promise made to the subjects that their giving or withholding of reports would have no effect whatever upon their standing in class or upon the personal attitude of their instructor toward them; that what they did was an entirely voluntary assistance to a scientific study. I am under obligations to Professor Warner Brown and to various other members of the staff and to Mr. Robert Tryon, a Fellow in Psychology, and to other graduate students for repeated assistance in the course of the work.

So far as the psychological returns are concerned, the data are, as one might expect, of very low consistency. This consistency, however, grows with the number of situations for which the individual makes report of his emotional responses. It will thus be possible, with the repetition of the experiment in the future, to discard those scores which are less reliable, and increase the number of those which are more reliable, until something like a satisfactory collection is attained. The present report, therefore, is merely of progress, and is subject to the correction which will probably be necessary when there is at hand something of greater cogency.

With these reservations the following are the conclusions to which the facts point.

There is a difference between the average scores of those whose history is free from disease and the average score of those whose history is of disease. The difference usually is so exceeding small that I should feel that it is probably quite accidental were it not recurrent in the same direction and in different groups of persons and in different samples of the same group. And this

recurrent difference is such that individuals who have had disease show a somewhat more intense emotional reaction than do those who have not had disease.

But this is clearly true only of anger. Little or no connection appears between the history of disease and the intensity of the fear response.

The connection and disconnection with *disease in general,* in the case of anger and fear, are clearer than the connection or disconnection with a *particular disease.* My number of cases is usually too small, when I consider only one disease, to serve as the basis of sound judgment. But it seems probable that the diseases here considered are of quite unequal importance. A past which includes scarlet fever, for example, seems to give fuller promise of a heightened anger response than does a past which includes only tonsilitis.

As for a difference or resemblance between men and women, the facts here considered indicate that the same general relation between a past disease and a present anger exists with men and women alike; and that with men and women alike there is the same ground for doubt or denial of a relation between a past disease and a present fear. There seems, however, to be this difference between men and women in general, that with men the connection between disease and anger is more pronounced than with women. That is to say, men who have had a history of disease appear to be thrown farther from the normal and into a readiness for somewhat more intense anger than do women who have had a similar history. And the importance of the particular diseases, it seems not improbable, is not entirely the same with men and women. Influenza, for example, which thus far has revealed little or no importance for the anger reactions of women, appears to be of considerable importance for the anger reactions of men.

These seem to be some of the answers given by the facts. But the present investigation, like all work in science, raises ten new questions for every one question which it even seems to answer. A few of the queries which at once suggest themselves are these:

(1) To what extent is there a cumulative effect of several diseases in the history of the same individual?

(2) Does the time of incidence of the disease have any special significance? For example, do diseases which have occurred in infancy connect themselves more prominently with emotional difference than do the diseases which occur at a later age? The answer to this question might prove to be of practical importance.

(3) Is there a particular common character in those diseases which have most clear and most pronounced connection with emotion,—a character which is absent from those diseases which show least connection with emotion?

(4) When a study of this kind is carried to a greater length, what light may we expect it to shed upon our knowledge of the physiology of emotion in general and of the particular emotions, anger and fear?

(5) Why, if it exists, is there a difference in men and women with respect to particular diseases?

But to return to the facts which already appear, several hypotheses may be entertained when we attempt to explain the main relation revealed. (a) Disease may cause organic changes which in turn carry with them a lowering of the threshold of anger. (b) Recurrent anger may cause organic or functional changes which in turn carry with them some lowering of resistance to disease. And (c) the constitution which is less resistant to disease may in that very fact involve obscure nervous and psychic characters which mean a reduced resistance to the stimuli of anger, mean a lowering of the threshold of the anger-response. Any or all of these hypotheses seem in harmony with the facts thus far collected; and one's choice among the three will be determined largely by personal predilection. My own inclination, if I may confess, is toward the first and third combined—for an original lowered constitutional resistance, upon which there has been superposed the effect of actual disease itself. But I have hope that a farther application of the method here used may help to take the matter out of the realm of mere personal preference and bring it to a decision by evidence alone.

A STUDY OF SUBJECT MATTER AND MOTIVATION OF CHILDREN'S DREAMS

By PHYLLIS BLANCHARD, PH.D.

IN 1924, 300 children under eighteen years of age were examined and treated by Child Guidance Clinic No. 1 of the National Committee for Mental Hygiene. In the course of the clinical study, 230 of these children were questioned concerning their dreams. Twelve or 5.2 per cent could not remember having had any dreams at all. Two hundred and eighteen or 94.8 per cent said that they had dreamed recently, but 29 or 12.6 per cent were unable to describe their dream experiences. The 189 children, 82.2 per cent of the total number questioned, who were able to recall some of their dreams, reported 315 dreams with more or less detail. Although their reports were in many instances somewhat fragmentary, as is apt to be the case in retrospection concerning dreams, it was considered to give a sufficient sampling of the dream experiences of these children to make a classification of subject matter and motivation of scientific interest. This was undertaken with the hope that it might throw some light on the nature of children's dreams at different ages and mental levels, and also for the purpose of comparison with descriptions of the dream life by Freud, Adler, Jung and Maeder, and their various exponents.

One of the questions to arise, in considering the dreams from the first point of view, concerns the types of children studied. The fact that they were in need of clinical diagnosis and treatment implies that they were a somewhat selected group. About 50 per cent were referred for examination because of conduct disorders, and another 25 per cent because of undesirable personality traits. The others were sent to the clinic because of school retardation, speech defects, bad habits or convulsions. Slightly over 5 per cent were not referred as problems, but were examined because of a study previously made of brothers or sisters. One child was brought because the mother realized the necessity for advice as to the proper training of a superior child. The reasons for referral are given in Table I.

The heading *conduct disorders* includes the following types of misbehavior: stealing, running away from home, truancy, lying,

sex misconduct, temper tantrums, fighting, disobedience, begging, defiance of authority, destructiveness. *Personality difficulties* were as follows: overimaginative, daydreaming, hyperactive, emotional, seclusive, egocentric, "nervous", unstable, sensitive, oversuggestible. *Bad habits,* appearing usually in the younger children, were enuresis, masturbation, thumb sucking, nail biting, etc. The other headings in Table I are self-explanatory.

A somewhat different classification resulted from an analysis of the clinical findings. The clinic study consisted of a complete social history, medical, psychological, educational and psychiatric

TABLE I.

REASONS GIVEN FOR REQUESTING CLINICAL STUDY OF CHILDREN.

Reason.	*Number.*	*Per cent.*
Conduct disorders	93	49.0
Personality difficulties	45	23.8
Conduct disorders and personality difficulties	11	5.8
School retardation	17	9.0
Part of family study	10	5.2
Speech defect	5	2.5
Bad habits	5	2.5
Convulsions	2	1.5
Advice re superior child	1	0.7
Total	189	100.0

examinations. Frequently, a child referred on account of some personality peculiarity or behavior symptom easily observed by parents or teachers, proved to be suffering from some organic or functional nervous disease, or some other factor more fundamental than the original reason for reference was revealed. In other instances, the child was found to have additional handicaps which had not been observed or reported by the person sending him to clinic, but which were discovered in the course of the careful study which he received there.

In Table II, the difficulties actually found by the clinic study are presented. The term *personality difficulties* is used in the same sense as in Table I. *Conduct disorders,* while including the same types of behavior, is limited to cases in which the misconduct seemed to be reactive to environmental conditions or an expression of mental conflict. Conduct disorders which were traced to other causes, such as adolescent instability, nervous diseases, or mental deficiency, are listed under the appropriate headings. Children who were referred for one type of difficulty as recorded in Table I, and who were found to have other difficulties in addition, are listed

under a double heading in Table II. Therefore, Table II gives a more accurate picture of the group of children studied.

With reference to habits, personality and conduct, these children cannot be considered typical of an unselected group. Haggerty's recent study of the incidence of undesirable behavior in public school children offers some indication as to their deviation in respect to conduct. Since his findings are based on reports of teachers, they are most comparable with the data in Table I, in which the figures are the result of observation, rather than those

TABLE II.

DIFFICULTIES REVEALED BY CLINIC STUDY.

Difficulty.	*Number.*	*Per cent.*
Conduct disorders	40	21.2
Personality difficulties	29	15.4
Conduct disorders and personality difficulties	38	20.1
Poor habit formation	15	7.9
Conduct disorders and poor habit formation	8	4.2
Personality difficulties and poor habit formation	12	6.4
Adolescent instability	11	5.8
Functional nervous disease	9	4.7
Organic nervous disease	6	3.2
Mental defect (below 70 I.Q.)	11	5.8
Miscellaneous	3	1.6
Normal (no difficulties)	7	3.7
Total	189	100.0

obtained from clinic studies in Table II. Haggerty reports that undesirable behavior occurred more or less frequently in 51 per cent of the more than 800 pupils in a Minneapolis public school.[1] In Table I the percentage of conduct disorders, appearing alone or in combination with personality difficulties, is 54.8 per cent. If the percentage of speech and habit cases, which Haggerty also includes in his category of behavior, are added, the total is raised to 59.8 per cent. In comparison with the 51 per cent reported by Haggerty, the difference is surprisingly small. Apparently our group of dreamers does not deviate from the average in behavior to a very marked degree.

So far as intelligence is concerned, the 189 dreamers are not much different from any unselected group of children. Only 11.8 per cent were of subnormal intelligence (I.Q. below 80). Thirteen and five-tenths per cent were of very superior intelligence (above 120 I.Q.). The lowest intelligence quotient in the subnormal group was 24; the highest in the very superior group was 154.

[1] Haggerty, M. E. The Incidence of Undesirable Behavior in Public School Children. *Journal of Educational Research*, September, 1925.

The rest of the children studied, 74.7 per cent, had intelligence quotients ranging from 80 to 119, and were fairly evenly divided into dull normal, normal (or average), and superior intelligence. The classification according to intelligence quotients is given in Table V. If the I.Q. distribution were plotted, it would follow a fairly normal distribution curve, the only irregularity being at the point between the borderline (70–79 I.Q.) and dull normal (80–89 I.Q.) groups.

The tabulation of the 189 dreamers by life age, mental age and intelligence quotient shows no particular trend as to the exact age or mental level at which dreams most frequently occur. If the age, mental age and I.Q. groups are enlarged, the findings appear to be slightly more positive. There then appears to be a slightly greater frequency of dreams reported above a life age and mental age of six years, and above 80 I.Q. When these figures are tested for reliability, however, only those which indicate a greater frequency of dreams above a life age of six years prove to be of probable significance. The findings with regard to mental age are doubtful, and those concerning the intelligence quotients have no significance.[2]

All that can be said, therefore, is that children apparently tend to report dreams more frequently above the life age of six years than below it. Perhaps children under six have as many dreams but cannot recall them afterward so well. The findings do not reveal whether this is the case, or whether they actually have fewer dreams. So far as the present data are concerned, it would seem that dreams occur as frequently at one level of intelligence as at another. In view of the small number of children studied, however, these conclusions cannot be taken as final in any sense. A much larger group would be needed for the establishment of general principles.

The data on which the foregoing statements are based are reported in detail in Tables III, IV and V.

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[2] The percentages in these and following tables were subjected to the following statistical test for validity: The standard deviation between the two percentages was calculated by the formula

$$\text{S. D.} = \sqrt{\frac{p_1 q_1}{n_1} + \frac{p_2 q_2}{n_2}}$$

in which p_1 and p_2 are the two percentages, q_1 and q_2 are the respective differences obtained by subtracting these two percentages from 1 (or 100%), and n_1 and n_2 are the number of cases on which the percentages are based.

A difference greater than twice the standard deviation was regarded as *probably significant;* a difference greater than three times the standard deviation was regarded as *almost certainly significant;* a difference less than twice the standard deviation was regarded as of *very doubtful significance.*

The subject matter of the 315 dreams reported by the 189 dreamers may be classified under comparatively few headings. (See Table VI.) In view of the importance of the parent in the child's life, it is not surprising to find that dreams of parents are among those most frequently occurring. They comprise 15.3 per cent of all the dreams reported, and represent 25.4 per cent of the dreamers. The death wish toward the parent, which has been given such a significant place in Freudian psychology, appears

TABLE III.

LIFE AGE OF DREAMERS.

Age.	*Children questioned.*	*Children describing dreams.*	*Children not recalling dreams.*	*Total dreamers.*	*Children not dreaming.*	*Per cent age group dreaming.*
Under 3	2	0	2	2	0	100.0
3–1— 4	3	2	0	2	1	66.6
4–1— 5	4	0	2	2	2	50.0
5–1— 6	10	7	0	7	3	70.0
6–1— 7	14	9	4	13	1	92.9
7–1— 8	18	17	1	18	0	100.0
8–1— 9	18	15	3	18	0	100.0
9–1—10	25	23	2	25	0	100.0
10–1—11	31	28	1	29	2	93.6
11–1—12	20	16	2	18	2	90.0
12–1—13	19	15	4	19	0	100.0
13–1—14	16	14	1	15	1	93.7
14–1—15	19	17	2	19	0	100.0
15–1—16	15	11	4	15	0	100.0
Over 16	16	15	1	16	0	100.0
Under 6	33	18	8	26	7	78.8
6–1—14	147	128	14	142	5	96.6
Over 14	50	43	7	50	0	100.0
Total number	230	189	29	218	12	
Total per cent	100%	82.2%	12.6%	94.8%	5.2%	

frankly in only four of the 48 parent dreams, although eight more dreams represent the parents as "gone away", which is usually interpreted as a less drastic form of dreaming with similar meaning to the death wish. Otherwise, the dreams picture the parents in a pleasant rôle, such as bringing gifts or taking the dreamer to places of amusement. There were also several dreams in which dead parents were believed to be alive again.

Next to parents, animals are the most frequent subjects of dreams—14.6 per cent of the dreams, by 24.3 per cent of the children, are about animals. If one were influenced by Jung, one might postulate in these animal dreams an expression of the racial unconscious, a recrudescent memory trace from the time when man's existence depended upon his ability to slay or escape from the

gigantic animals which coinhabited the earth. Probably G. Stanley Hall would have inclined to this phylogenetic explanation. To be sure, the animals which figure in the dreams are all contemporaneous, lions, tigers, bears, apes and snakes being the most popular. The snakes are often of the local type, and are specified as rattlesnakes, a species common to the part of the country in which these children lived.[3] This, in itself, need not controvert

TABLE IV.

MENTAL AGE OF DREAMERS.

M.A.	*Children questioned.*	*Children describing dreams.*	*Children not recalling dreams.*	*Total dreamers.*	*Children not dreaming.*	*Per cent M.A. group dreaming.*
Under 3	4	0	3	3	1	75.0
3-1— 4	2	1	1	2	0	100.0
4-1— 5	5	2	2	4	1	80.0
5-1— 6	9	5	2	7	2	77.8
6-1— 7	16	14	2	16	0	100.0
7-1— 8	20	15	2	17	3	85.0
8-1— 9	27	23	3	26	1	96.3
9-1—10	20	18	2	20	0	100.0
10-1—11	28	26	1	27	1	96.4
11-1—12	14	13	1	14	0	100.0
12-1—13	28	26	1	27	1	96.4
13-1—14	18	16	2	18	0	100.0
14-1—15	9	7	2	9	0	100.0
15-1—16	12	11	1	12	0	100.0
Over 16	18	12	4	16	2	88.9
Under 6	20	8	8	16	4	80.0
6-1—14	171	151	14	165	6	96.5
Over 14	39	30	7	37	2	94.9
Total number	230	189	29	218	12	
Total per cent	100%	82.2%	12.6%	94.8%	5.2%	

the racial memory theory, since it would merely imply that the child's attitude toward present day animals was colored by his long heritage from distant ages.

Nevertheless, it seems more logical to interpret these animal dreams in the light of the child's everyday experiences. In many instances, the child was able to trace his dream to some unpleasant experience with an animal, or to vicarious adventure through the movies or stories. For example, one boy's dream of an ape killing a man occurred after he had been reading "Tarzan, of The Apes". Another had dreamed of a gorilla after seeing one in the movies. This explanation of the animal dreams would be in harmony with Watson's studies of fear responses in young children, which show that the child has no innate fear of animals, but acquires it as a

[3] The clinic was stationed at Los Angeles, California, in 1924.

conditioned response.[4] Of the whole 46 animal dreams, 36 were those in which a definite fear element was present, the dreamer fancying that he was being chased or attacked, while in only 10 was hunting or riding the theme, with a pleasant affective tone.

Forty-one dreams, 13.0 per cent of the total number, by 21.6 per cent of the children, were listed under the heading of fear dreams. The details were hazy in most of these; some were described as "nightmares", others as "bad dreams that frightened". Probably many of these could have been classified under

TABLE V.

INTELLIGENCE QUOTIENTS OF DREAMERS.

I.Q.	*Children questioned.*	*Children describing dreams.*	*Children not recalling dreams.*	*Total dreamers.*	*Children not dreaming.*	*Per cent all children in I.Q. group*	*Per cent I.Q. group dreaming.*
Under 59	9	5	3	8	1	3.9	88.9
60– 69	5	4	1	5	0	2.2	100.0
70– 79	13	9	2	11	2	5.7	84.6
80– 89	42	33	7	40	2	18.2	95.2
90– 99	50	43	6	49	1	21.7	98.0
100–109	50	44	2	46	4	21.7	92.0
110–119	30	26	3	29	1	13.1	96.6
120–129	20	17	3	20	0	8.7	100.0
Above 130	11	8	2	10	1	4.8	91.0
Below 80	27	18	6	24	3	11.8	88.9
80–119	172	146	18	164	8	74.7	95.4
Above 120	31	25	5	30	1	13.5	96.8
Totals							
Number	230	189	29	218	12		
Per cent	100.0%	82.2%	12.6%	94.8%	5.2%	100.0%	

more definite headings had not the feeling of terror obscured the memory of the dream experience. It is unfortunate that there seems no other way to describe them except as "fear dreams", since this term is also used later in assigning the motivation of dreams.

Besides parents and animals, other common dream subjects are play activities, falling, robbers, death, relatives other than parents, opposite sex, supernatural beings (ghosts, witches, fairies, angels, boogamen), riches and fire. The dreams of death showed the dreamer as being killed or killing himself, or were concerned with the death of someone else (outside the family circle). If the four dreams of death of parents are added, the percentage is raised to 7.0 per cent of the total number of dreams and to 11.6 per cent of the dreamers. Dreams of the opposite sex varied from those of

[4] Watson, J. B. and R. R. Studies in Infant Psychology. *Scientific Monthly*, Dec. 1921.

kissing or marriage to those of more definitely sexual nature. The relative frequency of the different dream subjects is given in Table VI.

A tabulation of subjects according to life age, mental age and intelligence quotient of the dreamer, revealed very little. In many cases, where a comparison of the percentages by inspection suggested that certain trends might be indicated, the figures failed to withstand a statistical test of their validity.[5] The percentages

TABLE VI.

RELATIVE FREQUENCY OF DREAM SUBJECTS.

Subject.	*Number of dreams*	*Per cent dreamers*	*Per cent dreams.*
Parents	48	25.4	15.3
Animals	46	24.3	14.6
Fear	41	21.6	13.0
Play activities	28	14.8	8.9
Falling	22	11.6	7.0
Robbers	20	10.6	6.3
Death	18	9.3	5.7
Relatives other than parents	13	6.9	4.1
Opposite sex	12	6.4	3.8
Supernatural beings	10	5.3	3.2
Riches	9	4.8	2.9
Fire	7	3.7	2.2
Miscellaneous *	41	21.6	13.0

showing a decrease of parent dreams in the life ages between six and fourteen are probably significant, but those which suggest an increase above the age of fourteen are of no value. Percentages indicating increase of animal dreams between the ages of six and fourteen, and decrease above fourteen, are doubtful. The increase of play dreams between six and fourteen years is probably significant, but the decrease above fourteen is doubtful. The only figures which withstand the test sufficiently to seem of almost certain significance are those showing increase in dreams of death between six and fourteen years of age, but the increase of these dreams above fourteen is very doubtful.

So far as the mental age of the dreamers is concerned, the only trend of probable significance is that indicating the greatest fre-

* The miscellaneous dreams are of such subjects as the following examples indicate: Travelling, driving autos, going to jail, being released from jail, being arrested, finding money, being kidnapped, dreaming that one is a writer, inventor, chauffeur, cowboy, engineer or detective, dreams of pirates, skeletons, flowers, gangs. Dreams of this nature occurred in from one to three cases. One child dreamed of being chased by a dwarf; another of Uncle Sam sitting on a merry-go-round; another of being in a war in England. One little boy dreamed that he could do "everything better than anyone else". Etc., etc.

[5] See footnote describing this test on page 27, in discussion of Tables III, IV and V.

quency of dreams of robbers between the mental ages of six and fourteen. In the table classifying the dream subjects according to the intelligence quotients of the dreamers, the large number of death dreams in the group between 80–119 I.Q. seems to be of probable significance.

The detailed tabulations are presented in Tables VII, VIII and IX. Comparisons are made between the percentage of subjects and percentage of total number of dreams in the respective life

TABLE VII.

LIFE AGE AND DREAM SUBJECTS.

Subject.	*Under 6 yrs.*		*Between 6 and 14.*		*Above 14.*	
	No.	*%*	*No.*	*%*	*No.*	*%*
Parents	3	6.2	33	*68.8*	12	25.0
Animals	3	6.5	38	82.5	5	11.0
Fear	4	9.8	30	73.1	7	17.1
Play	1	3.6	25	*89.2*	2	7.2
Falling	0	0	13	59.0	9	41.0
Robbers	0	0	17	85.0	3	15.0
Death	1	5.5	10	*55.5*	7	39.0
Relatives other than parents	1	7.7	11	84.6	1	7.7
Opposite sex	0	0	6	50.0	6	50.0
Supernatural beings	1	10.0	8	80.0	1	10.0
Riches	0	0	8	89.0	1	11.0
Fire	1	14.3	5	71.4	1	14.3
Miscellaneous	1	2.4	33	80.5	7	17.1
Totals	16	5.3	237	75.1	62	19.6

age, mental age or I.Q. group. For example, in Table VII, a comparison by inspection reveals that while 75.1 per cent of the dreams are by children who have a life age between six and fourteen, only 68.8 per cent of the parent dreams occur in that age group, and the statistical test of validity indicates that the difference between the two percentages is of probable significance. In the three tables presenting these data, figures which test as of probable or certain significance are italicized; all others are doubtful or of no value.

The findings in respect to subject matter can be regarded as only tentative. How nearly they approximate conditions in the dream life of children in general can be determined only by further study. It is doubtful if the group of children under consideration is sufficiently atypical for the dreams to be unduly influenced by their peculiarities. Reference to Table II indicates that less than 10 per cent of the dreamers could be diagnosed as sufferers from nervous diseases of any type. As a matter of fact, only three of the cases—an hysterical girl, a boy with post-epidemic-encephalitis disorder, and an epileptic—presented mental conditions sufficiently pronounced to interrupt school attendance. The dreamers un-

doubtedly have a somewhat larger number of personality and behavior difficulties than school children in general, although the recent studies by Haggerty would suggest that the difference in this respect is slight, as was pointed out in earlier pages.

It is possible that deviations from these results would appear in the study of a larger number of children under conditions of better control. The data available for this preliminary analysis were obtained from the children in a single clinical interview in

TABLE VIII.

MENTAL AGE AND DREAM SUBJECTS.

Subject.	*Under 6 yrs.*		*Between 6 and 14.*		*Above 14.*	
	No.	*%*	*No.*	*%*	*No.*	*%*
Parents	4	8.3	35	73.0	9	18.7
Animals	3	6.5	38	82.5	5	11.0
Fear	2	4.8	31	75.7	8	19.5
Play activities	2	7.2	22	78.4	4	14.4
Falling	0	0	13	59.0	9	41.0
Robbers	0	0	19	*95.0*	1	5.0
Death	1	5.5	14	78.0	3	16.5
Relatives other than parents	1	7.7	12	92.3	0	0
Opposite sex	0	0	9	75.0	3	25.0
Supernatural beings	0	0	10	100.0	0	0
Riches	0	0	8	89.0	1	11.0
Fire	1	14.3	6	85.7	0	0
Miscellaneous	0	0	37	90.3	4	9.7
Totals	14	4.4%	254	80.7%	47	14.9%

each case. Hence it can only be regarded as a sampling of the dream life. It would be more desirable to obtain daily reports on dreams from a large number of unselected children over a reasonably long period of time. Such a method should be more productive in showing general trends.

The authenticity of the retrospective material also has a bearing on the accuracy of the subject analysis. For the most part, however, it would seem that the reports may be accepted as reasonably authentic. The fragmentary memories, with obscurity of finer details, shown in many of the reports are characteristic of the manner in which most adults recall their dreams. It is when undue elaboration of the material occurs that we may begin to suspect fabrication. Moreover, there is to some extent a check on the dream reports through the facts of the child's life obtained from the social history and psychiatric interviews.

Interpretation of the dreams from the dynamic viewpoint of motivation was based upon what is usually termed the manifest content. Freud has stated that the dreams of children are relatively simple, that they express wishes, fears or other motives in a fairly

overt manner. It is in adult life that the dream motives are more sternly repressed from consciousness and are admitted only when disguised in symbolic forms. Only one of the 189 children reporting dreams described any of marked symbolic nature. This was an hysterical girl, whose dreams appeared upon slight analysis as results of her emotional conflict over her family situation.

With the exception of this one case, the motives assigned to the dreams and dreamers were those which seemed obvious from the

TABLE IX.

INTELLIGENCE QUOTIENT AND DREAM SUBJECTS.

Subject.	*Under 80 I.Q.*		*80–119 I.Q.*		*Above 120 I.Q.*	
	No.	*%*	*No.*	*%*	*No.*	*%*
Parents	6	12.5	36	75.0	6	12.5
Animals	5	11.0	29	63.0	12	26.0
Fear	2	4.8	31	75.7	8	19.5
Play activities	2	7.2	19	67.8	7	25.0
Falling	2	9.1	15	68.2	5	22.7
Robbers	2	10.0	15	75.0	3	15.0
Death	2	11.0	16	*89.0*	0	.0
Relatives other than parents	1	7.7	9	69.2	3	23.1
Opposite sex	1	8.3	10	83.4	1	8.3
Supernatural beings	0	0	8	80.0	2	20.0
Riches	1	11.0	5	55.7	3	33.3
Fire	3	42.8	2	28.6	2	28.6
Miscellaneous	5	12.3	30	73.1	6	14.6
Totals	32	10.2%	225	71.4%	68	18.4%

child's own associations or from the information obtained by the social and psychiatric studies. A few illustrations may clarify this point. One boy had recurrent dreams of being an inventor. The clinic study revealed that he had a marked feeling of inferiority because of a special disability in reading which had handicapped his progress in school. He was always working with mechanical contrivances, and wished to become either a mathematician or an inventor, because he believed that his poor reading would not prevent success in these fields. His dream was therefore classified, as to motivation, under the double headings of *wishfulfillment* and *compensation* for feelings of inferiority[6]. Another boy's dream of a gorilla attacking him after he had seen this animal in the movies, was listed under the headings of *fear* and *movies* in the tabulation of motives. A little girl, who had recently received her first intimation concerning the origin of babies, dreamed that the family cat "got big and had kittens". Her dream was listed under the heading of *sex* curiosity. An adolescent girl, extremely unhappy at home, became depressed and attempted suicide. Failing in this,

she ran away from home. She had dreams in which she believed that she was dead. This was interpreted as a *wishfulfillment* dream, and also as an expression of *mental conflict.*

By far the largest number of dreams were expressions of wishes or fears: 46.3 per cent were wishfulfillments and 40.6 per cent were fears; 50.2 per cent of the dreamers were actuated by the former motive and 51.2 per cent by the latter. This preponderance of wishfulfillment and fear in the motivation of dreams is quite in harmony with Freud's theories.[6] On the other hand, sex, which is of fundamental importance for Freud, did not appear openly in the motivation of the dreams to any marked degree. Whether the lack of an adequate method for analyzing the latent content of the dreams is to any degree responsible for the small number of sex-motivated dreams is questionable. At any rate, even if the sex motive is so widely defined as to include not only dreams dealing with actual sex experiences but also those of kissing, marrying and babies (which may be considered as expressions of sex curiosity), only 5.7 per cent of the dreams by 8.5 per cent of the dreamers show any overt sex motivation. Wishes concerning the parent, also prominent in the Freudian theories, as well as in the dream interpretations of Jung and his school, were better represented, since they motivated nearly all of the 15.3 per cent of parent dreams.

Adler's interpretation of the dream as a wishfulfillment along lines of compensation for a feeling of inferiority appeared in the manifest content of only 1.3 per cent of the dreams by 2.1 per cent of the dreamers.[7] This could hardly be due to any personal prejudices against the Adlerian doctrine, since 18.0 per cent of the children were described as reactive to feelings of inferiority, and their personality and behavior difficulties explained as compensatory mechanisms.

Dreams resulting from mental conflicts were more frequent, occurring in 9.5 per cent of the dreams by 15.9 per cent of the dreamers. These findings are of particular interest in connection with Maeder's theory, which postulates an expression of the conflict or an attempt to find its solution as an important factor in dreams.[8]

Because of the practical bearing on child training, it was considered of interest to compute the number of dreams which were

[6] Freud, Sigmund. Interpretation of Dreams. Macmillan, N. Y., 1913.
[7] Adler, Alfred. The Neurotic Constitution. Moffat, Yard & Co. (Dodd, Mead & Co.), N. Y., 1917.
[8] Maeder, Alphonse. The Dream Problem. Nervous and Mental Disease Pub. Co., N. Y., 1916.

direct reflections of movies and stories. Usually these had also been listed under headings indicative of the more dynamic motivation, particularly that of *fear*. 6.3 per cent of the dreams by 9.5 per cent of the dreamers were recognized by the children as repetitions of episodes which they had witnessed in the movies or read in books. Probably many other dreams had this origin, the children simply being unable to recall the connection.

Table X presents in detail the classification of motives. It should be noted that it was not possible to determine the motivation

TABLE X.

MOTIVATION OF DREAMS.*

Motivation	*Number of Dreamers*	*Number of Dreams*	*Per Cent Dreamers*	*Per Cent Dreams*
Wishfulfillment	95	146	50.2	46.3
Fear	97	128	51.2	40.6
Mental conflict	30	30	15.9	9.5
Stories or movies	18	20	9.5	6.3
Sex	16	18	8.5	5.7
Compensation	4	4	2.1	1.3
Unascertained	28	28	14.8	8.9

for 8.9 per cent of the dreams. This was due in some instances to gaps in our information about the child, and in others to the child's own reticence concerning his mental life.

For the most part, the same reservations must be kept in mind in respect to the findings with regard to motivation as with subject matter. The possibility of fabrication is of less importance, since dreams and daydreams are generally considered to fall in similar categories from the viewpoint of motivation. There is, however, an added factor to be taken into account in the study of motivation,—the simplicity of method which makes use only of the manifest content. At the present time, the literature on children's dreams seems to offer no more adequate approach. It is to be hoped that we shall be able to work out a better technique as to the manner of obtaining reports and methods of analysis, for the subject of children's dreams is one on which we need more information, both as a contribution to scientific psychology and as an aid to the perfection of clinical technique.

From the viewpoint of the clinician, dreams are of assistance

* In studying this table, the derivation of the figures in the dreams and dreamers columns should be clearly understood. One dreamer might have one or more dreams with the same motivation. However this happened, it was counted invariably as *one* in the dreamers column, but as *one*, *two* or *three* in the dreams column according to the number of dreams having that particular motivation. It should also be kept in mind that the same dreamer or the same dream may be counted under more than one heading, and that this was done whenever there was a multiple motivation of a dream.

in understanding the child's difficulties, predicting his behavior, and bringing to bear upon him influences which may change his conduct. It is not at all unusual for the child who comes from a home in which the relations between the parents are strained, so that he is a witness to their repeated quarrels, to be unable to estimate the part which is played in his emotional adjustments by this situation. When he tells of dreams in which he is terrified by visions of the father attacking the mother (as were reported by one eleven-year-old boy), we have some indication that he is suffering from the tension, and we can use better judgment in planning our treatment.

One seventeen-year-old girl reported dreams which afforded a striking prediction of her conduct. She was exceedingly unhappy at home, hated her stepfather, and quarreled with him incessantly. She had a lover to whom the stepfather objected. During the clinic interview she related recurrent dreams of being married to this boy. Shortly afterward she eloped with him.

Sometimes the dream indicates a solution for the child's mental conflict which proves to be a practical suggestion and can be carried out successfully. A ten-year-old boy, who had been returned to an orphanage after the death of his foster parents, was a marked behavior problem at that institution. It was suspected that the discovery of his adoption and the loss of affection were the starting points for his misbehavior, but the boy was unable to formulate his conflict. His dreams, however, centered around being back with his foster parents or with a foster sister who had married and moved away. This sister was found, an interpretation of the boy's difficulties related on the basis of his dreams, and she consented to give him a home with her. Once more surrounded by the affection which he craved, the boy's behavior difficulties cleared up as if by magic. The dream solution of his problem proved to be the proper one for adjustment.

A qualitative study of the dreams of children might be carried much farther, but these illustrations give a fair conception of its place in the study of the child. Freud's classic statement that the dream is the *via regia* to the unconscious has its application, for it often seems to be a short cut to an understanding of some of the more subtle phases of the child's feelings and attitudes in respect to himself and his situation. It would be possible, of course, to ascribe too great a significance to dreams, but taken in connection with other data, they undoubtedly do contribute to our knowledge of the child's psychology.

IS INSTINCT AN ENTITY?

By J. B. EGGEN

DUNLAP has stated that he can see no way of distinguishing between instinct and habit.[1] Other psychologists as well have found instinct merging into and practically indistinguishable from other forms of reaction. Some have stated this in so many words; some have merely failed in their definitions and usages to make sufficient differentiation. Sooner or later this question must arise: can instinct really be distinguished from reflexes, from habit, and from emotion? It has always been closely associated with these things; has it any real entity outside of them? This question the present paper proposes to answer in the negative.

The point of view presented will be that "instinct" is not a type of response in itself, but a *cliché* representing a composite of responses. It is but an adumbration whose characteristics and content are identical with, and are derived from, simpler reaction forms. The truth of this has been partially recognized by Dunlap, when he identified instinct with habit, and by other psychologists when they identified instinct with still other reaction forms. We agree with these men that "instinct" is only a bad term for something else, but that this *something else* is habit, or any other *single* reaction form, cannot be agreed. The subject is far too diverse for just this. Many factors enter into it.

The topic is remarkably lacking in unity, and the failure to realize this is the reason for a great many ponderous ineptitudes that have been broadcast. Exponents of instinct psychology have made the mistake of treating it as a definable entity, and their opponents have followed them into the same morass.

When Dunlap tries to identify instinct with habit, here is the cause of his unsuccessfulness and that of other men as well. To reduce instinct to the unoccult matter of habit formation is to avoid much of the obfuscation surrounding the topic, but the simplification is too great to fit the facts. There are quite a number of responses, called instincts upon good authority, which are

[1] Dunlap, K. "The Identity of Instinct and Habit," *Jour. of Philos.*, Vol. 19, No. 4.

patently not acquired, such as *breathing, responses to heat and cold, fatigue* (Woodworth), *fear* and *anger* (Drever).

Likewise, when Mursell[2] says: "Indeed, it may appear that for us there can be no important distinction at all between instincts and emotions" he, too, is neglecting important ramifications of the topic in striving for unity. *E.g.*, the instinct of *breathing.* Similarly, we find it stated that ". . . instinct and reflex may best be regarded as synonymous terms, definable as innate reactions to stimuli."[3] Applied specifically, this is untenable also; it makes the pancreatic secretion[4] and the instinct of gregariousness synonymous forms of reaction. Still another psychologist asserts: "Thus the psychology and physiology of instinct are indistinguishable from the psychology and physiology of intelligence."[5] We prefer to think there is much difference in both fields between *intelligence* and the instinct of *anger,* whether the former be cortical or pharyngeal functioning.

These generalizations simply do not correlate with the facts they refer to. No doubt there are *some* instincts which are indistinguishable from *habits,* others from *emotions,* etc. The instinct of pugnacity is probably only a habit.[6] We can also doubt the practical value of a distinction between the instinct of love and the emotion of love. It makes little difference whether *suckling* is called a reflex or an instinct. The behavior grouped under the instinct of self-preservation can be largely a matter of *intelligence;* then again, it can contain not one but all of these things. These different reactions, fatigue, breathing, gregariousness, anger, cannot be grouped together; it is fully as absurd to place them all together under the heading of Habits, etc., as it was to include them all under the heading of Instincts.

Bernard[7] in his recent study found references to over five thousand different classes of instincts, of all imaginable kinds, and often with nothing in common. From its extensive usage it appears unlikely that instinct represents but one type of response, and that it can be identified with a *single* other less animistic form of reaction like *habit.* The very variety of the things which psychologists have found indistinguishable from instinct proves

[2] Mursell, J. L. "The Ontogenetic Significance of Instinct, Habit and Intelligence," *Psy. Rev.*, Vol. 29, pp. 162–179.
[3] Ladd and Woodworth. *Elements of Physiological Psychology*, 1911.
[4] An "important reflex," Mursell, *ibid.*
[5] Myers, C. S. "Instinct and Intelligence," *Brit. Jour. of Psy.*, Oct., 1910, Vol. 3, pp. 209–218 and 267–270.
[6] Perry, W. J. "Pugnacity," *The Monist*, Vol. 33, No. 1.
[7] Bernard, L. L. *Instinct, A Study in Social Psychology*, N. Y., 1924.

that not one but many factors enter into it: that *habit* is one of these factors, *emotion* another, *reflexes* still another, and perhaps *intelligence* a fourth.

The cause of the lack of unity we have indicated is a process of changing ideas, from time to time, of the nature of instinct, which has unwarrantedly been taken as a constant. The history of the concept shows a progress from barbarian theology to modern science, and progress is more a matter of revision of ideas than development of them. Fundamental revisions of its nature have taken place, unnoticed and unremarked. This obscurity has mothered at least three unlike and irreducible conceptions of instinct, which persist to-day as antagonistic views. Psychological usage has shifted from one to another without proper attention to and understanding of the change. To this division of thought can be traced much of the dispute that has waged militantly around the topic.

At different times and between different workers, the character of instinct has varied among (1) a typical pattern of activity, (2) a force back of activity, and (3) a neural disposition back of activity. These will be illustrated at length and the significance of the division shown.

One dichotomy is between instinct as a *force* behind behavior and as a *neural disposition* back of behavior. Here is a clear schism. It is best demonstrated by quotations; the first of these views is lucidly defined by Frink:[8]

"An instinct represents a measure of energy which urges toward a certain more or less specific type of action, and may therefore be called a creator of tensions. These tensions remain until they are released in the acts which satisfy the instinct, or, possibly, dissolved by some change within the organism."

Compare the following from an article by Bernard:[9]

"A 'tendency' which is not a purely metaphysical or mystical adumbration, must clearly be a neural disposition or set of neural processes."

The one, unequivocally, makes of instinct an organic force urging toward action. The other makes it a neural concatenation; not a force but a pathway. Definitely set off from both of these is still a third viewpoint.

There is a basic divarication between these definitions, where

[8] Frink, H. W. *Morbid Fears and Compulsions*, N. Y.
[9] Bernard, L. L. "The Misuse of Instinct in the Social Sciences," *Psy. Rev.*, Vol. 28, pp. 96–119.

instinct is looked upon as a *stimulus-response process,* and another definition in terms of the *end achieved.* Instead of a force or disposition behind activity, instinct is a pattern type of activity. James defines in terms of function:

"Instinct is usually defined as the faculty of acting in such a way as to produce certain ends, without foresight of the ends, and without previous education in their performance."

Here instinct is neither a "measure of energy" nor a "set of neural processes" but only a "faculty of acting". It is described as certain typical activity, whose origin is obscured in the word "faculty". The distinguishing mark of this viewpoint is the non-genetic definition.

There is no clue to the etiology of this notable diversity. It may have an obscure foundation in social psychology and the necessity of rationalizing the social institutions of different periods, as the concept varies in nature under the pressure of "being used to justify social and political inequality".[10] This can only be suggested; the significance of these basically different lines of thought to us here is that, although showing the subject's lack of unity, they nevertheless suggest that closer study of them will reveal those factors composing it that we are looking for.

First let us take the conception of instinct as a force, and see whether or not it is identical with some other form of reaction. To this category Berman's[11] view of instinct seems to belong. He analyzes instinctive activity into four steps or stages: (1) reception of the stimulus; (2) endocrine hyperemia; (3) autonomic tension; (4) conduct to relieve this tension. Thus the unfolding mechanism of an instinct. But Kempf[12] has outlined precisely the same mechanism, calling it *emotional* reaction. It is inferred from this significant confluency that *instinct as force* is but the ancient and theological view of the emotions, and that this part of the concept of instinct is readily identifiable with *emotion.*

This conclusion is quite probable. The separating line between instinct and emotion has long been indeterminate. Instincts were once considered the motive urge back of all organic activity, but this place has now been arrogated by the emotions. The change is one of name only; both terms refer to love, hatred, fear, shame, rage and such dynamic reactions. Even the protective teleology of the instinct is being transferred to the emotion by the recent

[10] Bernard, *op. cit., Instinct,* p. 243.
[11] Berman, L. *The Glands Regulating Personality,* pp. 171–172.
[12] Kempf, E. J. *The Autonomic Functions and the Personality,* N. Y., 1921.

work on the adrenal gland of Biedl, Elliott, Dreyer and Cannon. All this has led to a hopeless confusion of the two things. The old distinctions, like James', are no longer valid.[13] Psychanalysts refer impartially to instinctive repression and emotional repression, treating them as synonymous. And, of course, psychologists imperfectly differentiate the two. Similarly to Mursell, La Rue[14] says:

". . . it appears that instincts are emotional and emotions are instinctive. To say that one is instinctive and to say that he is emotional comes very near to saying the same thing twice."

Here, then, is one element in instinct—emotion. Since Freud it is easy to believe that many of the unit instincts are recondite constellations, taking their supposed automaticity from the fact that their origin is in the unconscious and their supposed perfection without learning to the fact that the occasion of their learning has been forgotten (repressed). A number of instincts on any list can be accounted for in this way. The remainder require other explanation.

A variation of instinct as a force back of behavior is instinct as a neural concatenation back of behavior. Woodworth[15] asserts:

"In terms of the nervous system, an instinct is the activity of a team of neurons so organized, and so connected with muscles and sense organs, as to arouse certain motor reactions in response to certain sensory stimuli."

Instinct has also been variously defined as a "series", "chain", "concatenation", "complex", "serial grouping", "synthesis", or "combination" of simple reflexes. The line of demarcation

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[13] *Vide infra.* Another distinction between the two has been proposed by Watson. He says that the emotions throw the organism into a chaotic state, while the instinct makes it do something, "throws his hand up for defense, blinks his eyes or ducks his head; he runs away, he bites, scratches, kicks and grasps whatever his hand touches."

This latter part involves the debated question of the specificity and utility of the instincts. That they are so purposeful has been strongly denied, and it is far too dubious to be the criterion of a sound distinction. That the emotions throw the organism into a purposeless chaotic state is likewise unsound. Instead, it is to a degree true that the teleological character of the instincts is being transferred to the emotions. The action of adrenin is highly useful. "That this physiologic response to injections of adrenin is equivalent to the act of self-preservation by running or fighting is made obvious by a detailed examination of the significance of each phenomenon. The stimulated organs and tissues are just the organs and tissues that would be most utilized in a struggle for self-preservation by motor activity." (Crile: *Man—An Adaptive Mechanism.*) In reference to this glandular activity Woodworth says: "Any emotion represents internal preparation for some type of overt action." This is quite far from a "chaotic state", and it is difficult to see how this differentiation can be maintained.

[14] La Rue, D. W. *Psychology for Teachers*, N. Y., 1920.

[15] Woodworth, R. S. *Psychology: A Study of Mental Life*, 1921, p. 107.

between the two has been drawn with but indifferent success. In opposition to this view—that instinct differs from reflexes "only in its greater complexity"[16]—we agree with another psychologist that:

"If we identify instinct entirely with reflex action, the term would no longer have any utility in distinguishing different forms of behavior, for it would be synonymous with reflex action."

Either a distinction must be made in some manner between the two responses, or else one of them becomes redundant. "There have been many attempts to distinguish between the two: difference of complexity, of consciousness, of time involved, and of emotional accompaniment. All these are differences of degree and not of kind, and as Woodworth[17] says, break down in the examination of cases. It is, practically, impossible to make any distinction.[18] The difference usually stated, that of degree of complexity, does not take into account such very complex reflexes as swallowing or coughing."[19] We must therefore conclude that this dilemma is a genuine one, that no distinction can be made, and that "instinct" is frequently misapplied to many reflexes. Here is a second factor that appears ingrained as a part of the concept of instinct, like emotion, and instinct in part can readily be identified with it. Just as many of the instincts can be quite adequately described as "emotions", so can others be fully accounted for as reflexes. With *emotion*, then, as a component of instinct, there are also *reflexes* (this general designation includes tropisms, etc.).

Three different conceptions of the nature of instinct were noted above. Two of them, instinct as force and instinct as neural disposition have been identified with *emotion* and *reflex*, respectively. The other one is capable of treatment in much the same manner. In this case we are considering instinct not as an urge or pathway stimulating to activity, but as a *form* of activity. The chief point is the character of the ends, without reference to how they are brought about, or as Thorndike[20] has put it, "the responses which are their end-terms". Instinct is expressed as *activity with certain characteristics*, not "inner structure and organization".

According to Givler: "By the word instinct we mean all the

[16] Parmalee, M. *The Science of Human Behavior*, N. Y., 1913.
[17] *Op. cit.*
[18] *Vide infra.*
[19] Eggen, J. B. "The Decline of the Concept of Instinct," *The Modern Quarterly*, Vol. II, No. 4, pp. 294–308.
[20] Thorndike, E. L. *The Original Nature of Man*, p. 205.

inherited tendencies and all the acquired powers which we employ without any conscious effort or without recognizing them as being inherited or acquired."[21]

Here is a definition of instinct in terms of "activity with certain characteristics". But it will be noticed he includes under instinct "*all the acquired powers* which we employ without any conscious effort . . ." Those acquired powers can be nothing else than *habits,* which evidently are another form of response entering into the subject of instinct. Instincts as habit complexes is our final identification, derived from this third idea of the nature of instinct.

The dictum of Dunlap in reference to habit and instinct has already been noted. Kuo[22] likewise maintains that for experimental purposes the distinction between the two is too crude to be of any value. Bernard[23] has shown well how "instinct" can mean any vague psychical process that is merely habitual. In the concept of instinct, therefore, habit probably plays a large part.

All these different views of instinct might lead a satirically inclined person to ask whether, after all this discussion, psychologists really know what they're talking about. They're not altogether at fault; the topic has meant so many things, and they have considered it as an entity. No wonder much of the discussion has become rococo and *prima facie* impossible. We are still laboring under the tradition of the old academies and are unwilling to substitute facts and experimentation for dialectics and controversy. The various disputes, *e.g.,* consciousness accompanying instincts or not, were all well founded in that there was enough half-truth on each side to make the old defenders stick to their guns with bovine stubbornness and refuse to see the arguments of their opponents. One feels that too often theories are advanced merely to gain prominence for the author, who then spends the rest of his life distorting and "interpreting" facts to uphold them. The result is interminable controversy. Few have the courage to admit, like Dewey[24] did, that their previous views have become untenable.

It can hardly be doubted now that the common usage of the word and concept of instinct is practically meaningless. It con-

[21] Givler, R. C. *Psychology,* N. Y., 1922.
[22] Kuo, Z. Y. "A Psychology Without Heredity," *Psy. Rev.,* Vol. 31, pp. 427–448.
[23] *Op. cit.,* p. 128.
[24] Dewey, J. *Human Nature and Conduct,* N. Y., 1922.

stantly confuses at least three widely differing ideas, experimental evidence for any of which is either lacking or lost in dialectics and diatribes. The disparity between these different points of view is quite indissoluble. To Judd[25] instincts are motor activities coördinated by inherited neural structure. He does not specify whether the muscles meant are the sympathetic musculature involved in emotion, or the projicient musculature of which most habits and reflexes are comprised. Thus is avoided a not clearly perceived question. Pillsbury also attempts to avoid this sphinx by a very generous definition, and likewise fails: "The term instinct is used to indicate all acts whose conditions are inherited." At least two words here are indefinable, "acts" and "conditions". Is mitosis an instinct? Osmosis? Maturation? The conditions for these are certainly inherited. If they are called instincts, however, so must every organic process.

Our way out of the muddle is not to explain *instinct* but to explain instincts. Instead of theorizing about an abstraction we should be concerned with the different reactions as empiric facts. Gregariousness should be explained to the best of our knowledge without considering any hypothetical relation of it to the patellar reflex. Instead of trying to define and describe that ridiculous category which includes such diverse things as *pugnacity* and *responses to heat and cold,* the separate reactions themselves should be studied, stripped of the invalid or obvious connotations of an "instinct of pugnacity" or an "instinct of responses to heat and cold".

In other words, "Instinct" includes too many diverse reactions to be treated as a single topic. The idea of instinct as a force back of behavior either led to or was derived from the use of such unit instincts as *love, fear, anger,* which modern psychology prefers to call emotions. Of a totally different character from these reactions are other unit instincts in use: *suckling, breathing, heat and cold responses,* which are associated with the conception of instinct as a neural concatenation, and which cannot be satisfactorily named anything but reflexes. Another division of the concept is instinct as a situation achieved rather than a response process, representing such unit instincts as *gregariousness, pugnacity,* and *sleeping with our feet toward the light.* There may be others; it must not be attempted to reduce so manifold a topic to too precise categories.

[25] Judd, C. H. *Psychology,* p. 213.

We have, out of respect for a supposed entity, treated these as three divisions of the same concept. In reality they are more like three distinct concepts. Explaining them according to the tradition of "Instinct", as a single form of response, we must say that there are three ramifications of it, as noted above. Together they make up the psychological content of the concept. That it is not, in itself, a distinct form of response has been established by recent criticism. Its use, popular and scientific, has been as a mere generic term to cover all reactions of an unascertainable origin. The only thing common to these many usages has been the term itself. No definition of it has been formulated successfully; any one we have now will probably cover not more than half of the situations in which the term appears. Someone has said that the end of science is to establish facts that are valid to everyone everywhere, that are beyond dispute. The only end of instinct psychology has been to establish more dispute.

According to this solution, we have three definitions of instinct, each referring to a different division of the subject. Each of the unit instincts can be referred to a simpler category of response, like *habit*, whose attributes they have arrogated. The concept of instinct has no characteristics which distinguish it from these other forms of reaction save a certain mystic, or animistic, tradition. The suggestion that the term be dropped is hence unavoidable.

SUMMARY

The concept presents an egregious lack of unity. This prevents the identification of instinct with other forms of response, as Dunlap and others have tried to do. But the various things which psychologists have found indistinguishable, or only distinguishable with difficulty, from instinct are clues to the various factors which enter into it and aid in the analysis of its diversity.

In current definitions we find a clear dichotomy between instinct as an organic force and instinct as a neural concatenation. Of an entirely different character from both is instinct as a pattern type of activity. These three conceptions we have identified with emotion, reflexes and habit, respectively. In theory and practice these things are indistinguishable from instinct.

These different views have fathered an interminable controversy upon the subject. As long as instinct is considered as a unit, an entity, this fruitless controversy will persist. To solve

the conflict we offer these three views of the nature of instinct. All "instinctive behavior" is to be interpreted in terms of emotions, habits and reflexes, or complexes of these elements.

II

The value of these distinctions lies in their workability. They are not merely nicely arranged but useless categories. They are of practical use in resolving some of the most persistently mooted questions in this field. Without such a utility this analysis would be of little value.

One of the venerable questions is: are instincts attended by consciousness or not? Another is: what is the difference between instinct and emotion? instinct and reflexes? instinct and habit? Still another is: has man more instincts than the infrahuman animals? In dealing with these problems it will be quite advantageous if our lines of demarcation are admitted.

First let us take the matter of the consciousness of the instincts. According to Prince[26] instincts are definitely conscious in their action. The opposing opinion of Givler has been already noted above. The question is apparently very important, but at this late date is still unsettled.

In considering the action of particular instincts, however, we seem to get along well enough in regard to consciousness despite the fact that this has never been settled. It is obvious enough that breathing, digestion, swallowing, et cetera, are unconscious, just as we know that such things as amorousness, pugnacity, rage, and the like, are indisputably conscious. There is no indication of dubiousness in regard to these specific cases, but in theorizing about them there is a great deal of it. For all practical purposes we know which are conscious and which aren't. The difficulty comes when all these responses are grouped into a single category, and, assuming a non-existent entity, the same characteristics are ascribed to them all.

It is evident that those psychologists who consider instinctive action a conscious process were not thinking of *breathing* or *responses to heat and cold.* On the other hand, it could not be maintained that *anger* is unconscious. Still again, something like *gregariousness* may be, to a great degree, devoid of consciousness. The question reduces itself to a failure to differentiate sufficiently

[26] Prince, M. *The Unconscious,* N. Y., 1921. Compare also: Tansley, *The New Psychology,* N. Y., 1921.

between different types of instincts, some of which are partially conscious, some wholly, and some not at all.

Those "instincts" of our first class, the reflex acts, are patently not conscious, and to this division *breathing,* etc., belong. The other "instincts" which are better named emotions are, likewise patently, quite conscious. The third class, habit complexes, contain a variable amount of awareness. The question is thus solved by a refusal to see in instinct a separate form of response to which can be attributed unconditionally *in toto* the quality of consciousness or unconsciousness.

The solution is persuasively simple, but then again, the question was needlessly complex. It was a stupid and unnecessary debate, involving a great amount of inferior theorizing about a thing which is for all practical purposes sufficiently clear. It has been said that psychology is a science which explains what everyone knows in terms of what no one knows. For Faculty Psychology—and Instinct Psychology[27]—this has been largely true. Physiology explains *breathing* in comprehensible terms—concentration of H-ions in the blood acting upon certain medullary centers which discharge to the respiratory musculature. Psychology substitutes for this the occult force of an "instinct" for breathing, a hypothetical factor whose nature is more indeterminate than the thing it tries to explain.

More futile discussion of this same type has been carried on regarding the difference between instinct and emotion. We have expatiated above upon the undistinguishability of the two. Attempts to find some basis of differentiation have been legion. So far, none have been arrived at.

Pillsbury,[28] following the lead of James, makes this distinction: an emotion is a reaction which "ends wholly in the body" while an instinct involves relations with an object outside the body. Let us turn to a list of instincts to see if this distinction is carried out there. Woodworth lists as instincts *crying, sucking, circulation, waste elimination, responses to heat and cold, fatigue, rest* and *sleep.* These reactions all end within the body, in so far as that phrase means anything. Therefore, according to the Jamesian definition they would be emotions, a palpable absurdity. On the other hand, recent work on the emotions has emphasized as never before the extent and significance of our emotional reactions to

[27] *Cf.* Field, C. G. "Faculty Psychology and Instinct Psychology," *Mind,* July, 1924.

[28] Pillsbury, W. B. *The Fundamentals of Psychology.*

objects in our environment. According to Kempf,[29] every emotion represents an acquisitive or avertive impulse directed toward some external object. Woodworth[30] likewise states:

"The fear-anger state of the organism, being certainly a state of preparedness for attack or defense, suggests the following generalization: 'Any emotion represents internal preparation *for some type of overt action.*'"

This old distinction between emotion and instinct now fails, for psychology has done a remarkable *volte face* upon this matter. Here is another schism of opinion; like the last it can be explained in the same way. In saying that instincts were reactions ending outside the body, these older psychologists were referring to such habits or complexes as acquisitiveness and pugnacity. And only those who were writing before the advent of "dynamic psychology", with its stress on the social significance of the complex (Jung), wish (Holt), desire (Dunlap), and autonomic disturbance (Kempf) could have said that an emotion is a reaction ending wholly in the body. It is obvious, though, that the particular class of instincts we prefer to call reflexes,[31] like *fatigue*, do end within the body. It is likewise obvious that the others do not. Some such distinction as ours, between different *kinds* of instinct, is necessary.

This last statement is true also in regard to the matter of the differences between instinct and habit and reflexes. No possible difference can be found if the concept of instinct is subjected to a treatment such as we have suggested. If on the other hand it is taken as an entirety the various complications of the subject will confuse and invalidate attempted lines of separation. The criteria of instinct fail utterly to set it apart from other forms of response. Whatever characteristic we choose: infant ability, universal or invariable adult ability, animal or insect performance, relative perfection, adaptiveness, automaticity—all are equally characteristic of reflexes. Most of these are also applicable to many important habit complexes: universality, invariability, appearance in animals, adaptive character, automaticity, etc. The same thing is true of emotions. It comes to this: instinct has no characteristic which has not been borrowed from these other responses. Hence no general formulation will distinguish it from

[29] *Op. cit.*
[30] *Op. cit.*
[31] This is only a general designation, of course, for the class includes integration on the chemical level and tropisms.

them. Only when the generalizations are dropped and a return is made to empiric facts can the pupillary reflex, anger, sociability and the rest be distinguished. But as for a distinction between instinct on the one hand and habits and reflexes on the other, there *is* no distinction.

Does man have more instincts than animals or not? Here is another poser. Some answer in the affirmative, some in the negative. There are textbooks which affirm dogmatically one way, without mentioning that other books affirm fully as dogmatically the other way. A cognate question is the number of instincts that man has. The number he was ascribed by James, Thorndike, *et al.*, is shocking to us now. Most psychologists nowadays decrease this number very much, and say that animals have more instincts. Others stick to this indefinite expanse and say that animals have less.

Our clarifying approach answers this question, like the others, with both *yes* and *no*. Of habit complexes, due to his superior cerebrospinal development, man has indisputably more. It is popularly said that our whole lives are dominated by habits. With reflexes (and tropisms, etc.) man is not so copiously supplied. The extensiveness of reflex behavior in insects has been a marvel to all observers. That man has more emotions than animals is also probable.

In all of these cases the mistake which led to the raising of the question has been the consideration of instinct as a single definable entity and the attempt to give it certain characteristics always applicable. When this illusion is dropped, many of the problems that have revolved madly about the topic will resolve themselves. Until then, those psychologists who continue to use it are deluding themselves with a pretty abstraction.

Another much debated matter is the definition of instinct. We would define it in this way:

Instinct is a compartment-term including a diverse assortment of responses; it has varied at different times among (1) *a force back of behavior,* (2) *a neural concatenation back of behavior, and* (3) *a pattern form of behavior; the responses it includes are chiefly emotions, reflexes and habits, or complexes of them; its usage carries the general implication of innateness, adaptiveness or automaticity and the special implication only of obscure etiology. Since it has no characteristics not derived from the component response forms its usage along with them is either a pleonasm or an animistic way of thinking.*

In conclusion, the widespread adoption of instincts by sociology and the other social sciences cannot be too much condemned. For Parker[32] to say ". . . nothing falls within the human scheme of things desirable to be done except what answers to these native proclivities of man", is errant nonsense. The general usage of the idea of instinct is as a specious justification of otherwise unjustifiable institutions. The colossal inanity of war is made a part of human nature[33] just as it was once made a part of the evolutionary process (*i.e.*, being caused by a mythical overpopulation), to prevent inquiry into its scandalous economic nature. Veblen's [34] instinct of workmanship is merely a rationalization for economic class distinctions, which are at present in desperate need of some justification. In the same way that war and class distinctions are rationalized, Trotter[35] rationalizes international enmity: "The instinctive process which makes the dog among his fellows irritable, suspicious, ceremonious, sensitive about his honor, and immediately ready to fight for it is identical with the German and produces identical effects." This is a prostitution of science in the service of that species of mob hysteria called patriotism.

The desuetude of instincts has a greater significance for sociology than the abandonment of these freak explanations. It means that instead of depending, as in the past, upon obscure and unknown "forces" to take care of the primary relationships of mankind and the institutions directing them, we must rather see that these relationships and institutions are so adapted to our affectivity that they will by their attractiveness or disattractiveness induce in all those reactions desired by intelligent men. Specifically, the institution of marriage and the care of the children must not be carelessly assigned to instincts of love or maternity, but must be reconstructed by a science of human symbiosis in order that it will be voluntarily entered into by rational men and women because it is personally gratifying, affectively pleasing and socially admirable.

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[32] *The Casual Laborer*, 1920.
[33] Crile, *A Mechanistic View of War and Peace*, 1915. *Cf.* the opinion of Cannon upon war.
[34] *The Instinct of Workmanship*, 1913.
[35] *Instincts of the Herd*, 1919.

SELF-RATINGS AS A MEANS OF DETERMINING TRAIT-RELATIONSHIPS AND RELATIVE DESIRABILITY OF TRAITS *

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ONE OF the most used means of estimating personality is the rating scale. Rating scales take a variety of forms—graphic, point scales, "man to man" comparison, order of merit, and a score of other special adaptations of these. But in all rating procedure the experimenter has to make a choice between having his group rate themselves or be rated by one another. The other alternative is of course to do both. Various arguments can be made in favor of each method. It is certainly true that there are some things that we know about ourselves that others rarely know; on the other hand, it is equally true that we do not see ourselves as others see us.

Rugg,[1] who has perhaps made the most thorough investigation of rating by others, is of the opinion that ratings by others can be reliable if the ratings are made under rigorous conditions: (1) if the final ratings are the average of at least three independent ratings; (2) if the scales on which the ratings are made are comparable and equivalent; and (3) if the raters are so thoroughly acquainted with the person rated that they are competent to rate.

Freyd,[2] who used a graphic rating scale, had his subjects both rate themselves and be rated by others. He reports that the general trend is for acquaintances to rate the men higher or more favorably than they would rate themselves. However, he says the differences between groups in self-ratings and in the ratings of others are in most cases slight, but they gain significance from the fact that in almost every case where a difference appears in self-ratings it is corroborated by the ratings of others, and from the fact that the differences are consistent.

* This study is a part of the investigation "Analysis and Measurement of Human Personality" which is being financed through the Committee on Scientific Problems of Human Migration of the National Research Council.

[1] Rugg, H. O. Is the Rating of Human Character Practicable? Journal of Educational Psychology, 1921. Vol. 12, Nos. 8 and 9, pp. 425–438, 485–501; 1922, Vol. 13, Nos. 1 and 2, pp. 30–42, 81–93.

[2] Freyd, Max. The Personalities of the Socially and Mechanically Inclined. Psychological Monographs, 1924. Vol. 33, No. 4, whole No. 151, p. 66.

Hollingworth,[3] who used the order of merit technique and a different list of traits, obtained results quite different from those of Freyd. When he compares the average displacement of self-estimation from position assigned acquaintances, the results are approximately what they would have been had the names been shuffled instead of seriously and honestly arranged.

In regard to errors of self-estimation, Hollingworth's results show that traits which we should on the whole characterize as "admirable" are overestimated; traits ordinarily classed as reprehensible are underestimated. Traits which may be classified as either "admirable" or "reprehensible" show no constant error of self-estimation in either direction.

Shen,[4] in his article, "The Validity of Self-Estimate", finds that although an individual is likely to rank himself in a group less accurately than his associates, he knows himself well in that he knows his relative strength in the various qualities rather accurately.

The present paper is limited to two phases of the relationship between trait terms as shown by the self-ratings. Is there any evidence that these terms are understood or comprehended in special ways, and is there such a thing as "desirability", either directly or indirectly, shown in the manner in which persons rate themselves? An opportunity presented itself to give several groups the forms a second time for rerating. Since the time interval varied, some evidence is available regarding the effect of the time interval on consistency of ratings. One of the groups was given several objective tests purporting to measure similar personality characteristics. These relations are also reported.

The special rating scale used has some of the features of the graphic scale, others of the point scale. The terminology is borrowed from Wells.[5] It consists of twenty-four traits in sets of three, since for each of the eight key words there are two other terms which were given as synonymous terms in a dictionary of synonyms. These particular trait terms were chosen because they were terms of a volitional bent and it was hoped that the self-ratings could be used for comparison with scores made on the Downey Will-Temperament Test.

[3] Hollingworth, H. L. Judging Human Character. Appleton, 1922. Pp. 45–55.

[4] Shen, Eugene. The Validity of Self-Estimates. The Journal of Educational Psychology, 1925. Vol. 16, No. 2, pp. 104–107.

[5] Wells, Frederic Lyman. The Systematic Observation of the Personality in its Relation to the Hygiene of Mind. Psychological Review, 1914. Vol. 21, No. 4, pp. 295–333.

At least one of the correlative relations between characteristics may be said to be expressed in the use of synonyms. In selecting the terms for the eight sets, this offered an opportunity to test the method of self-ratings. The eight sets of terms contain synonyms and terms that are verbally, at least, either negative, as "methodical" and "careless", or different in "desirability". Will self-ratings exhibit these three commonly accepted facts?

The scale was given to five groups of students. The first group (Group I) consisted of 79 men and women registered in the School of Education at the University of Michigan in the summer of 1923. Forty-one of these students rerated themselves. As a group they were much older than the usual college student, many of them having taught or held school administrative positions for a number of years. The second group (Group II) which is comparable to the first, consisted of 24 members of a course in Mental Measurements in the University of Michigan in the summer of 1924. The third group (Group III) was made up of 74 students in the departments of industrial engineering and commercial engineering at the Carnegie Institute of Technology. These students were all men and were much younger than the members of Groups I and II, being about the usual age for college juniors and seniors. Twenty-three members of Group II and forty-nine members of Group III rerated themselves, although after different time intervals, as will be explained later. Group IV was comprised of 55 students in a course in Personnel Management in the University of Michigan in the spring of 1925. The members of the class were mostly seniors, although there were a few graduate students. Only first ratings were received from this group. Group V is a small group and contained twelve first ratings from a group of students in a course in Applied Psychology at Harvard Summer School. Ten second ratings were received from this group.

The groups were given the scale with instructions to rate themselves at that point on the line which best described them in comparison with a normal curve of all persons possessing the trait. The six descriptive symbols used on the scale were:

\+ ! marked presence above ordinary
\+ distinct presence above ordinary
\+ ? doubtful presence above ordinary
— ? doubtful deficiency below ordinary.
— distinct deficiency below ordinary
— ! marked deficiency below ordinary

The rating on each trait was the millimeter distance from the check mark to the —! end of the line.

The first three groups rerated themselves, but the time intervals varied.

The members of Group I rerated themselves after two weeks.

The members of Group II rerated themselves after four weeks.

The members of Group III rerated themselves after four months.

EFFECT OF TIME INTERVAL

Central tendency and variability.—The influence of time on the reliability of the self-ratings is shown (1) by a comparison of the sigmas on first and second rating and (2) by a comparison of the self-correlations after the varying time intervals.

The rating scale line is 180 millimeters long. The average or center of the line falls at 90 millimeters. A group rating itself on a trait in which it considered itself average would have the mean fall at 90. If it considered itself better than average the mean would be above ninety; if poorer than average, below ninety. The sigmas of the distribution show the homogeneity of the group. On a self-rating scale the size of the sigmas shows the diversity of opinion of the members of a group concerning themselves. Cases of large deviation may be caused by actual unusual presence or absence of the trait, by special attitudes of the rater which cause underestimation or overestimation, by differences in interpretation of the trait term, or by a multitude of other special reasons. Our particular interest is to see if rerating tends to make groups more or less homogeneous and if there is any noticeable difference in homogeneity of traits.

Groups I and III are more comparable than either Groups I and II or Groups II and III in that the total 24 traits are included in both of these groups.

(1) One of the first points of interest is that on first rating the average mean for both Groups I and III are practically the same, 100, and that the same conditions hold for second rating. This would show that as a whole the groups consider themselves above average on this particular list of traits and that this opinion holds over as long a period as four months.

(2) It is also seen on comparing the sigmas that in Group I the average sigma remains about constant. In Groups II and III, where the time interval is longer, the average sigma is smaller on rerating. This tendency for the sigma to grow smaller is further verified if the number of times that the standard deviation is smaller on rerating is taken into account.

In Group I sigma increased on rerating 8 of 24 times.

In Group II sigma increased on rerating 3 times, remained the same twice.

In Group III sigma increased on rerating once and did not remain the same any out of 24 times.

In all 66 reratings the standard deviation increased 12 times, remained the same twice. Said in other terms, the standard deviations on the second ratings were smaller 52 out of 66 times. This seems more than mere chance would occasion and is in line with the general idea that second thoughts are best thoughts if by best thoughts are meant the more conservative ones.

Correlations between first and second self-ratings.—Table I gives the self-correlations for each trait and for the group. By reading in the horizontal direction the reader can see the self-correlations of terms which are synonymous. In Group II, through an error in mimeographing, six traits were omitted. The self-correlations show how consistent the opinions of each person are as to his standing in each trait in comparison with all the other members of his group.

(1) If we consider the average self-correlations in Table I, it becomes evident that there is a tendency for the reliability of self-ratings to decrease as the time interval between ratings increases. The rate of decrease of reliability bears a resemblance to the usual curve of forgetting, to which it likely has some relationship.

(2) It will be noticed that this decrease in reliability with increase in the time factor does not hold true for all traits. In

TABLE I.

SELF CORRELATIONS.*

	Group.				Group				Group		
Trait.	I	II	III	*Trait*	I	II	III	*Trait*	I	II	III
1. Alert	.74	.25	.18	Keen	.49	.38	.44	Wideawake	.74	.32	.30
2. Industrious	.59	.24	.70	Persistent	.36	.42	.52	Hardworking	.67	.49	.49
3. Obstinate	.74	.59	.35	Inflexible	.61	.32	.29	Unyielding	.75		.13
4. Orderly	.77	.41	.54	Methodical	.67	.50	.45	Well-regulated	.63		.38
5. Careless	.70	.72	.64	Heedless	.65	.29	.02	Lax	.48		.35
6. Uncomplaining	.55	.31	.25	Submissive	.47	.35	.11	Forbearing	.49		.37
7. Enthusiastic	.56	.55	.47	Eager	.66	.41	.40	Intense	.62		.37
8. Wilful	.79	.81	.24	Headstrong	.68	.43	.60	Perverse	.62		.15
AVERAGE									.63	.43	.35

*(Time interval Group I —2 weeks.)
(Time interval Group II —4 weeks.)
(Time interval Group III—4 months.)

three cases, the traits hard working, persistent and industrious, the group having the largest time interval has the highest self-correlations. It is interesting to note that these traits, hard working, persistent and industrious, are synonyms. In two instances the four weeks group (Group II) has the highest self-correlations, these being on the traits wilful and careless.

(3) Out of the eighteen traits on which all three groups have self-correlations, 10 follow the time order. These are alert and wideawake (synonyms), obstinate and inflexible (synonyms), uncomplaining and submissive (synonyms), enthusiastic and eager (synonyms), and methodical and heedless.

(4) In one case, the trait "persistent", the order of self-correlations is directly the reverse of the time order. On the other seven traits, there are other possible combinations.

Summary.—In examining the effect of time intervals, we may say that, although reliability coefficients have a tendency to decrease as the time intervals between ratings increase, other factors are operative which will either interfere with, or assist, this tendency. Chief among these tendencies may be the understanding of the trait term and the ability to place one's self on a scale, specific happenings which affect the attitude toward the self at the time of first or second ratings, connotations of the word which are different at the time of first and second ratings, and estimations of the desirability of the trait in the eyes of the rater, the group or the person for whom the ratings are made.

Another conclusion to be drawn is that reratings are more homogeneous than first ratings, and that either this tendency towards conservatism increases with the time in between ratings, or else the Carnegie group (Group III) for some undetermined reason was more homogeneous at the time of second ratings.

Influence of the degree of comprehension of the trait term.—The first measure of comprehension is to be found in the relative size of the self-correlations within each group. Here the time element, and the same group element is held constant so that the understanding of the word, the ability to describe one's self quantitatively in terms of the given trait and the ability to place one's self in a scale made up of others having the trait in increasing degrees become the important factors.

Table II gives the degree of correlation between the stability of traits, traits being ranked according to the size of their self-correlation coefficients. This would show whether certain traits are

more stable than others regardless of time intervals and the group rating. The $R = 1 - \frac{6\Sigma d^2}{n(n^2-1)}$ formula was used.

(1) The first point to be noted is the wide range of the self-correlations for each group, a range of 44 for Group I, of 57 for Group II, and of 68 for Group III (Table I). This increase in range is caused by the presence of lower self-correlations. The range increases in the same order as the time factor.

(2) The second result of special interest is the fact that the degree of stability of a trait varies as the group rating varies.

TABLE II.

Group I Michigan 1923—Group III Carnegie R=—.12
Group I Michigan 1923—Group II Michigan 1924. R=.33
Group II Michigan 1924—Group III Carnegie R=.23

This is brought out by the negative and low positive correlations given in Table II. Slawson[6] gets similar results with a list of 11 traits when ratings are made by others. He says, "Here we see that the relative positions of the traits obtained from the coefficients of agreement in each school are by no means alike in each of the schools." He believes that this is in part due to the fact that local conditions made it possible to make judgments objectively in one school and subjectively in another. Other influencing factors are local emphasis placed upon the trait and degree of acquaintance between judges and persons rated.

(3) The correlations by ranks of self-correlations (Table II) are all low, in fact so low that for these twenty-four traits one feels little hesitancy in saying that the degree of self-correlation of a trait in one group gives but little evidence of its possible size in another group.

(4) The fact that the highest rank order correlation is between the two Michigan groups might indicate that the common interests and character of groups have some slight influence on the size of the self-correlations.

The question in regard to the comprehension of the trait term is brought out by the size of the correlations between synonymous terms. The ratings on the synonymous terms were all made at the time of the first rating. This holds true for all three groups. It would seem reasonable to suppose, all other things being equal, that the correlations between the same terms would be highest,

[6] Slawson, John. The Reliability of Judgment of Personal Traits. Journal of Applied Psychology, 1922. Vol. 6, No. 2, pp. 161–171.

between synonymous terms the next highest, and between words which bore no word relationship the next highest. This condition would not be as likely to exist if the time interval were different at different times of rating as in the case in our experimental groups. But, on the other hand, if the time element is held constant, all first ratings, then the terms which are synonymous have the possibility of being reacted to in the same manner by each group. The same condition holds for the terms which are nonsynonymous. The nonsynonymous intercorrelations are limited to eight traits, one representative of each of the nonsynonymous groups. These terms were chosen from Group I, the term in each set being the one in its set having the highest self-correlation.

Results.—(1) The average correlation for synonymous terms for the three groups is approximately the same.

TABLE III.

PEARSON CORRELATIONS OF SYNONYMOUS TERMS.

Terms	*Group* I	II	III	IV	*Terms*	*Group* I	II	III	IV
Alert—Keen	.67	.35	.43	.38	Careless—Heedless	.43	.30	.22	.40
Alert—Wideawake	.67	.45	.46	.44	Careless—Lax	.59		.23	.33
Keen—Wideawake	.54	.59	.50	.47	Heedless—Lax	.51		.03	.37
Average				.50	Average				.34
Industrious—Persistent	.35	.32	.37	.30	Uncomplaining—Submissive	.15	.05	.27	.18
Industrious—Hardworking	.63	.59	.73	.60	Uncomplaining—Forbearing	—.12		.31	—.10
Hardworking—Persistent	.52	.37	.53	.29	Submissive—Forbearing	.09		.33	—.09
Average				.47	Average				.19
Obstinate—Inflexible	.49	.40	.38	.08	Enthusiastic—Eager	.76	.54	.69	.54
Obstinate—Unyielding	.57		.19	.38	Enthusiastic—Intense	.51		.31	.13
Unyielding—Inflexible	.44		.46	.25	Eager—Intense	.46		.42	.23
Average				.36	Average				.46
Orderly—Methodical	.49	.71	.39	.32	Wilful—Headstrong	.30	.38	.35	.12
Orderly—Well-regulated	.39		.25	.47	Wilful—Perverse	.47		.28	.38
Methodical—Well-regulated	.57		.37	.27	Headstrong—Perverse	.58		.42	.11
Average				.42	Average				.33
					AVERAGE	.47	.42	.37	.30

(2) The range of the intercorrelations is from —.12 to .76 for Group I, from .05 to .71 for Group II, from .03 to .73 for Group III, and from —.10 to .60 for Group IV.

(3) The uncomplaining, submissive, forbearing group of terms has the lowest intercorrelations; the alert, keen, wideawake group, the highest. It is evident that some synonymous words are easier to rate on than others, or at least to rate on from the same point of view as the terms that are synonymous to it. There is, of course, the other possibility that the correlations are lowered by lack of comprehension of any one of the three words.

(4) The average size of the intercorrelations, about .40, and their range, would indicate that the three groups were not aware of the author's plan of a cycle of synonyms and acted to the words independently. The two teaching groups are slightly superior to the Carnegie group in discriminating between words, or in formulating and placing themselves on a scale for these traits.

Results.—(1) The intercorrelations of the nonsynonymous terms are as a whole considerably lower than either the self-correlations or the correlations of synonymous terms, as shown by the average intercorrelations of .18, .32, .17 and .12.

(2) There are several negative correlations. These are to be found particularly in correlations with the traits careless and submissive.

(3) Group II has the highest average intercorrelations. This is partially due to its high negative intercorrelations with the trait careless.

(4) If we compare the three groups of raters, noting difference in time between the second ratings, we will find certain very interesting results. These are brought out by Table IV.

(a) The reliability of self-ratings as measured by reratings on the same terms decreases as the time interval increases.

(b) If the time interval is two weeks or less, there is likelihood of the self-correlations being on the average higher than the correlations of synonymous words or nonsynonymous words.

(c) If the time interval is lengthened the self-correlations become of about the same value as the correlations with synonymous terms on the first rating.

(d) If the time interval is lengthened to as long as four months period the correlations for nonsynonymous words remains less than the self-correlations.

CONCLUSIONS

These results seem to show that groups of intelligent raters are able to distinguish between words, even though these words are undefined, and to rate themselves on a scale built up from their comprehension of these words, with the reliability that average correlations from .35 to .63 would indicate. The stability of comprehension for this group of words is on the average what an r of .40 would lead one to expect over a four-month-interval. However, the range of self-correlations is so wide for the same word from group to group, regardless of the time element, that the

TABLE IV.

AVERAGE CORRELATIONS.

	Group I 2 weeks time interval	*Group II 4 weeks time interval*	*Group III 4 months time interval*	*Group IV*
Average Self-correlations	.63	.43	.35	
Average Synonymous Correlations (First Ratings)	.47	.42	.37	.30
Average Non-synonymous Correlations (First Ratings)	.18	.32	.17	.12

degree of reliability of a word as shown by one group is no index of its reliability when used as a basis for ratings by another group. There are evidently very important factors at work which are active and determinant in one group, which are not present or not active to the same degree in other groups.

Influence of the Desirability of the Trait.—In order to answer this question we arranged the traits in the order of the size of their means. We then found the average standard deviation and the average self-correlation for the first twelve traits (ranked in order of their means) and then for the last twelve traits.

(1) In general, those traits with the highest means, found listed among the first twelve traits are "admirable" traits—assumed to be particularly desirable in students. The twelve traits with the lowest means are as a whole those considered "reprehensible" in students. However, since the low means of the "reprehensible" traits indicate that these students are below average in the presence of these traits in their positive form, the group considers itself on the whole considerably above the theoretical average of 90 on all of the traits with favorable connotations. Traits that are desirable under some conditions, undesirable under others, are nearer the average of 90. The inflexible, obstinate,

unyielding group of traits falls at about this point. Persistent, hardworking and industrious lead the list, with the alert and eager groups following; careless, heedless, and lax, with headstrong and perverse are at the end of the list. Synonyms come somewhat in their expected order.

(2) Another point of importance is the fact that in all groups the average standard deviation for the favorable traits (those listed among the first twelve) was smaller than the average standard deviation for the unfavorable traits. This held true on both first and second ratings. This we interpreted as meaning either that it is more difficult to place one's self on a scale of a trait stated in its unfavorable phase, or a trait having both a favorable or unfavorable connotation than to place one's self on a scale on traits whose desirable phases are the outstanding ones, or that the groups actually possessed more variability on the undesirable traits.

(3) The average self-correlations of the two groups of traits, favorable and unfavorable, varied with the groups, if we judge on the basis of second ratings. The Michigan 1923 group had about the same average self-correlation coefficients for both lists of traits. The Michigan 1924 group had somewhat higher for the unfavorable traits, the Carnegie group somewhat higher for the favorable traits. Does this mean that time tends to make us first a pessimist and then an optimist, or that the Carnegie group would be likely to state with more assurance the presence of favorable traits and the Michigan group would be able to state with more assurance the absence of unfavorable traits? This latter seems to us the plausible interpretation.

The next procedure was to see how well the rank of the means of the various groups agreed. Would the traits considered to predominate in the Carnegie group be the same as those considered to be predominating in the Michigan groups? These correlations are given in Table V.

The outstanding conclusions seem to be that the predominating traits of all groups bear a strong similarity, the lowest correlation being $r = .786$ for the small Harvard group. However, the predominating characteristics of the two Michigan groups are much more alike than the predominating characteristics of either Michigan group and the Carnegie group. It would be interesting to see if the means would remain in about the same rank order if given to other than school groups. This would show more clearly how much the criterion of desirability influenced the rating.

The plan of selection of the trait terms gave us a limited number and variety of terms so it is probably unsafe to make any sweeping deductions at this time. The data, however, suggest the use of self-ratings as an interesting indirect method of establishing relative social or group standards of desirability among trait terms. The powerful effect of such barely recognized influences seems to exhibit itself in unusually stable fashion in these data. In contrast to the variable scoring the individual exhibits as a result of the temporary set or the specific connotation he gives the term as applied to himself, stands the stable order of means between groups and over varying temporal periods. We plan to publish further data which seem to confirm this indirect use of self-ratings. *What is the relation between self-ratings and other measures of the same trait?*

The data in this section are limited to 45 cases of Michigan, 1923, Group I. The ratings on alert, orderly, careless, enthusiastic, wilful, submissive, hardworking and unyielding were correlated

TABLE V.

RANK ORDER CORRELATIONS OF TRAITS BY THE SIZE OF THE MEANS IN THE SEVERAL GROUPS.

First and Second Ratings.

Michigan 1923	.957
Michigan 1924	.909
Carnegie 1923	.950
Harvard 1924	.936

Second Ratings

Michigan 1923 Carnegie 1923	.864
Michigan 1923 Michigan 1924	.878
Michigan 1923 Harvard 1924	.903
Carnegie 1923 Michigan 1924	.841
Carnegie 1924 Harvard 1924	.786
Michigan 1924 Harvard 1924	.878

First Ratings

Michigan 1923 Carnegie 1923	.832
Michigan 1923 Michigan 1924	.963
Michigan 1923 Michigan 1925	.934
Michigan 1923 Harvard 1924	.867
Carnegie 1923 Michigan 1924	.905
Carnegie 1923 Michigan 1925	.890
Carnegie 1923 Harvard 1924	.808
Michigan 1924 Michigan 1925	.909
Michigan 1924 Harvard 1924	.882
Michigan 1925 Harvard 1924	.836

with (1) score on Carnegie Personnel Bureau Test VI (an intelligence test), (2) the number of the last word tried on Carnegie Personnel Bureau Test XV (an association test), (3) number of terms omitted in Test XV, (4) total score Test XV, (5) number of opposites Test XV, (6) speed of movement Test IX (Personnel Bureau form of the Downey Will-Temperament Test), (7) speeded writing Test IX, (8) motor inhibition Test IX, (9) freedom from inertia Test IX, (10) care for detail Test IX and (11) coördination of impulses Test IX.

Results.—(1) The correlations are on the whole very low, submissive having the three largest, —.40 with speed of movement, —.57 with speeded writing and —.43 with coördination of impulses.

(2) The generally low intercorrelations may be due to the fact that the traits rated are not the same traits as found in the objective tests or that either the tests or the ratings are not adequate measure of the traits in question.

CONCLUSIONS

1. Some experimental evidence is found to support the statement that synonyms are descriptive of closely related traits. Whether this relationship is produced by a recognition of the similarity or is the result of language habits is not shown. Such constellations clearly exist. Their origin is not established.

2. Apparently relative desirability, objectively considered, exists. It can be exhibited by the use of the indirect method, using the technique of self-ratings.

3. Speaking generally, individual variability in ratings is a function of the time interval.

4. No clear relation appeared between objective tests of the volitional type and the trait terms used in this study.

SEX IN TANTRAS

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BEFORE the creation began the supreme Brahman was steeped in the state of unconsciousness and inactivity, and so he remained until he was in rapture embraced by Adyasakti who on entering into him made him self-conscious and active. Thus Turiya Brahman was awakened and a tendency for creation developed in him, but at the basis of it we see the working of the inspiration He drew from His consort Adyasakti. The energy thus generated in supreme Brahman joined on to Adyasakti became divided into three, and thus Vishnu, the Protector of the world, Brahma, its Creator, and Shiva, its Destroyer, were born. "Eka-murtistrayo deva brahma-vishnu-maheshvarah." Again it is mentioned in Goraksha-Samhita that Adyasakti fastened in an embrace with Supreme Brahman became divided into three and thus created out of herself Brahmi, Vaishnavi, and Gauri. Brahmi represents the power of action, Vaishnavi of knowledge and Gauri stands for the power of desire. Goraksha Samhita says, "Ichha kriya tatha jnanam Gouri Brahmni cha Vaishnavi; Tridha Sakti sthita loke tatparam saktiromiti". Brahmi is pictured as a maiden of ruddy hue with a pure smile and seated on a swan; Vaishnavi is of the color of pure gold, youthful with full and rising breasts and is seated on Garuda (the Eagle); while Gouri is seated on a long-horned bull. The long horn of the bull and the long necks of the swan and the eagle exactly correspond to the phallic conception of Freud who may read into the glowing female figures, seated with the phallic symbols in front, a functional representation of the sexual libido. Again, Brahmi being Rajasika was married to Brahman, Vaishnavi as Sattvika to Vishnu and Gouri as Tamasika to Shiva. But this matrimonial relationship is a clear instance of an incest sexual attachment which has been glaringly demonstrated in the case of Shiva's marriage with Bhagabati or Gouri. Brahman and Vishnu conjoined with their consorts began creating the universe but Shiva remained unmarried and did not participate in the creation. So Brahman and Vishnu apprehending imperfection in the creation grew anxious and went to propitiate Shiva who at last agreed to their proposal. They

then prayed Parameswari Adyasakti (the supreme deity) to whom they all owed their origin to become the wife of Shiva. Adyasakti first resented and said, "He is a mere boy; He won't be able to satisfy me". But at last She yielded to the proposal out of love for Shiva.[1] Does it not refer to the Freudian conception of Oedipus complex? Besides, the laziness of Brahman, Vishnu and Shiva, stripped of the influence of their consorts, is undoubtedly a fact which proves the predominating importance of sex energy, though the whole thing may be construed as a sexual anthropomorphism.

The sexual libido excited in the conjugal embrace seems to become differentiated in the manifold activities in creation. So the energy pervading the universe is after all ultimately derived from the sex libido. The universe is fundamentally the Turiya Brahman attached to Adyasakti. Thus the sex-libido is at the root of all energy manifested in the universe. The conception of libido, according to the Tantras, exactly corresponds to that of Freud who interprets it entirely in terms of the sex-energy, but the Tantric conception is far greater in quantitative magnitude of value and relatively wider in application. Tantric libido lies embracing the whole universe and is to be regarded as being its fundamental principle.

According to the Tantras, human nature, in respect of function as well as structure, has come to be what it is from the ultimate source of Turiya Brahman attached to Adyasakti. The original undifferentiated sex-libido becomes differentiated in passing through the stages of Mahat and Ahamkara before it reaches the Manas.

Mahattattwa derived from the united body of Turiya Brahman and Adyasakti produces three kinds of Ahamkara, viz., Sattwika, Rajasika and Tamasika. From the Sattwika Ahamkara again are produced the faculties of hearing, touch, sight, taste and smell (that is to say, mind is practically in a sense derived from it). From the Rajasika Ahamkara we have the five senses of action; and when Tamas dominates in Mahat we get the five gross elements, such as earth, water, heat, air and ether, of which the body is constituted. This is a conception closely allied in a sense to the conception of Kapila and Patanjali. Thus we see that the Turiya Brahman co-habiting with his consort the supreme deity appears through the various and successive modifications, as mind, senses and so on. So it is quite obvious that the sexual

[1] This is also a Pouranik story.

libido generated in the productive function of the supreme divine Beings is the primal energy which flows inevitably through every human organism. It may be regarded in modern biology as the heritage of the race which is shared by all human beings. In the Tantras nothing is mentioned about the constitution of the eternal, immutable Supreme Brahman; we will get therein the constituents of Adyasakti (the supreme deity) which are Sattwam, Rajas and Tamas. Sattwam is goodness; Rajas is mobility or activeness; and Tamas is desire. Again, of the three constituents Tamas is the most fundamental one from which the other two are subsequently divided. (Ch. IV, 25—Mahanirvana Tantram.) So the desire as embodied in Tamas is the ultimate mental constituent of Adyasakti and is first of all expressed in her sexual gratification with the Turiya Brahman, and afterwards it is manifested in the manifold activities of creation. So what the human nature inherits as race-characteristic is ultimately the Tamas, *i.e.*, the desire as related to sexuality. This is further borne out by the representation in Tantric Bhashya, of the Tamas as the figure in which Maheswara, the supreme God, remains united with Mahakali, the supreme Goddess, in rapture. Thus the Tantras lend clear support to the Freudian conception of the unconscious play of infantile sexuality even during childhood.

Besides, this Tantric conception also points out that all goodness as manifested in Sattwam and all activities as in Rajas ultimately owe their origin to the sex-energy in the Tamasik desire. Again, Sattwam and Rajas, though ultimately derived from Tamas, exist together with it; and their combinations with one another are infinite in number, but the actual degrees in the combination of the three constituents or principles are, according to the Bhashya of H. Bharati on Maha-Nirvana-Tantram, determined by merit which stands for the accumulated dispositions of the individual from life to life. This is exactly what the Patanjalik conception of Mahat is. Now, merit being different for different men, Mahat, *i.e.*, the race-characteristics of Sattwam, Rajas and Tamas combined differently with the congenital individual dispositions, is also different. Of course, at the basis of the conception is a strong belief which every Hindu holds of many rebirths. Thus Mahat is the natural endowment which every individual possesses differently and this may be treated as the subconscious of modern psychology. So, translated in modern terms, the individually inherited tendencies may be regarded as the effects of heredity and environment. But we do not exactly know, according to the Tantras, the fundamental

guiding principle of the accumulated dispositions acquired from life to life, but there can be no doubt that it is somehow related to the fundamental race-characteristics of the individual. Again, of the race-characteristics the ultimate principle has already been traced back to Tamas which is nothing but the sex element. So it is undoubtedly a fact that the subconscious, even according to the Tantras, is somehow ultimately related to the sex principle and thus bears out the Freudian conception with this reservation that the subconscious is not necessarily a morbid condition of mind, nor something abnormal. Again, according to the Tantras, from Mahat, *i.e.*, the subconscious, arises Ahamkara which means the ego-maker or the self-conscious. So the subconscious comes first, then the conscious and the conscious again in the form of Merit affects the subconscious which thus may have within itself a suppressed tendency accumulated from life to life. According to the Tantras this Mahat is localized in the two-petalled lotus called Ajna Chakra situated between the two eyebrows. In the two petals and the pericarp there are the three Gunas—Sattwa, Rajas and Tamas. Within the Triangular mandal in the form of vagina in the pericarp there is the lustrous linga (phallus) called Itara; but the Saktanandatarangini understands this phallus to be the Mahatlinga, *i.e.*, the phallic symbol of Mahat. To this a psychological significance is certainly attached. The fact that Mahat in the form of the subconscious is represented as Phallus seated in a place clearly representing the vagina lends further support to the sexual basis of the subconscious. This sex relation will be more clearly exposed when we shall turn to study the different chakras (centers) with the different Vrittis, *i.e.*, the congenital dispositions or functions attached to them in the body. There are six chakras, viz., Muladhara, Swadhishthana, Manipura, Anahata, Vishuddha and Ajna, located in a hierarchical order in the bodily system. Over all there is the thousand-petalled lotus (Sahasrara-padma). In these chakras there are the presiding elements which control the function of their respective sheaths of which the human body is composed. They number five, viz., anna-maya, prana-maya, mano-maya, vijnana-maya, and ananda-maya or the physical and vital bodies, the two mental bodies and the body of bliss. These chakras may, irrespective of their anatomical and physiological importance, of which there is a great doubt, be construed as dynamic centers to which certain functions, almost common to all human organisms, are attached. The Muladhara, Swadhishthana and Manipura centers are concerned with the anna-maya kosha in the

act of nutrition and digestion, the Anahata and Vishuddha chakras deal with the function of prana-maya kosha; the Ajna chakra contains within itself the center of power inherent in mona-maya and vijnana-maya kosha while in the Sahasrara the Atma (soul) of the last sheath of bliss resides. Prana is conceived in the Saradatilaka as the universal force of activity. All vital forces numbering about ten are the different aspects of the action of the one Prana which Kundalini (the supreme deity) illumined by the light of the supreme Brahman generates.

Now apart from the controlling activity which the dynamic Tattvik centers perform in the regulated functions of the bodily sheaths, they, in addition, preside over the acts of awakening of the congenital dispositions which are located in the petals of which the different centers (*i.e.,* chakras) are composed. These dispositions or functions number about sixty-two, of which Muladhara contains four, such as Jogananda (Joga bliss), Paramananda (supreme bliss), Sahaja-ananda (natural bliss) and Virananda (Vira bliss); Svadhishthana six, such as Prashraya (credulity), Avishwasa (suspicion), Avajna (disdain), Murchchha (delusion, or as some say, disinclination), Sarva-nasha (destruction), and Krurata (pitilessness); Manipura ten, namely, Lajja (shame), Pishunata (fickleness), Irsha (jealousy), Trishna (desire), Sushupti (laziness, *i.e.,* absence of all energy), Vishada (sadness), Kashaya (dullness), Moha (ignorance), Ghrina (aversion), Bhaya (fear); under Anahata there are twelve Vrittis (inclinations or dispositions), namely, Asha (hope), Chinta (anxiety), Chesta (endeavor), Mamata (sense of mineness), Dambha (arrogance), Bikalata (languor), Ahamkara (conceit), Viveka (discrimination), Lolata (covetousness), Kapatata (duplicity), Vitarka (indecision), Anutapa (regret); Vishuddha Chakra as the abode of the Devi of speech and also the center of seven musical notes; above the Chakra is a concealed chakra called Lalana and, in some Tantras Kula-chakra containing on its petals the following Vrittis, Shraddha (faith), Santosha (contentment), Aparadha (sense of error), Dama (self-command), Mana (anger), Sneha (affection), Shoka (sorrow), Kheda (dejection), Shuddhata (purity), Arati (detachment), Sambhrama (respect), Urmmi (appetite). The Ajna Chakra which is regarded as the center of command contains the mental faculty and bears within itself three modes of temperaments or dispositions, such as Sattwika (divine), Rajasike (heroic) and Tamashika (animal); above the Ajna Chakra there are two other secret chakras, called Manas Chakra and Soma-chakra. This

Soma-chakra bears sixteen Kala, such as Kripa (mercy), Mriduta (gentleness), Dhairyya (patience), Vairagya (dispassion), Dhriti (constancy), Sampat (prosperity), Hasya (cheerfulness), Romancha (rapture), Vinaya (modesty), Dhyana (meditation), Susthirata (quietude), Gambhiryya (gravity), Udyama (effort), Akshobha (emotionlessness), Audarya (magnanimity) and Ekagrata (concentration). Sahasrara-padma or the thousand-petalled lotus is regarded as the region of the first cause. In the petals of the lotus are placed all the letters of the alphabet; and whatever there is in the lower chakras or in the universe (brahmanda) exist here in a potential state (avyakta-bhava). Now, despite the distinct, well-defined localities given to the so-called different Vrittis (dispositions), they are by no means primarily separate. They seem to have been haphazardly placed in the petals of different lotuses and the possibility of their subsumption has altogether been lost sight of. But however crude and inaccurate the localization of the dispositions may stand and however ill-conceived their separability from each other may be, it can hardly be denied that they are facts of experience, and with reference to the standpoint from which we are viewing the problem we do not require to see anything else but the source of the energy with which they are being charged. Now chakras are often called granthis, which may correspond in conception to ganglia in physiology and the petals appear to be the processes of the ganglion cell-body. So the Satchakra, to be physiologically construed, is a system of nerve-centers with branches through which nervous current is transmitted. So the six chakras can be given anatomical stations in the different regions of organic system and as such Muladhara refers to the sacral ganglia, Swadhisthana to lumbar ganglia, Manipur to semilunar ganglia, Anahat to Thoracic ganglia, Vishuddha to cervical ganglia, Ajna to the medulla oblongata with the cerebellum and Sahasrara to the cerebrum. But this anatomical localization of the chakras has hardly any correlative significance in the dispositional functions attached to them. The dispositions that are ascribed to the chakras are all mental and can by no means be regarded to be the functional correlatives of any bodily organs other than the cerebrum, in the case of which even strong opposition prevails, and the Sahasrara again, which is referred to the cerebrum, contains within itself no active dispositions but everything lies there in potential state. But the analogy as drawn between the chakra and the ganglion cell, however contradictory in psychophysical relation, seems to suggest a very important idea

about the generation of active force in all Vrittis (*i.e.*, dispositions). Now the cell-body presiding over the growth and nutrition of the cell-processes, the latter derive their energy from the center. The Vrittis as localized in the petals seem to hold a similar relation to the presiding deities at the center of the lotus. We have already pointed out that no creative desire is generated in the mind of the deity without being conjoined with his consort, and without her he remains all along dull and inactive. The coupled deities residing in the center of the lotus preside over its functions, and all energy necessary for the action of associated Vrittis is consequently derived from them.

In Muladhara the Devi Kundalini lies asleep coiled like a serpent around the Svayambhu-linga. Here also resides a couple—Brahma and Savitri—and the energy or Sakti derived from them is called here Dakini; in Swadhishthana Maha-Vishnu resides in embrace with Maha-Lakshmi and Saraswati and generates Rakini-energy; in Manipura Rudra remains united with his consort Bhadra-Kali and the energy generated of them is Lakini Sakti maddened with passion (Mada-matta-chitta); in Anahat reside Ishwar and His Sakti Bhuveneshwari and the Kakini Sakti or energy whose heart is softened with wine is near them; in Vishuddha there is the androgyne Shiva known as Arddha-narishwara and the presiding energy is called here Shakini; in Ajna there is the lustrous linga in the form of the Pranava which is called Itara. Para-Shiva in the form of Hamsa remains united there with his Sakti—Siddha-Kali, and the energy that controls the functions here is called Hakini; and in Sahasrara, which is not called a Chakra at all, resides Parama-Shiva alone and it is perhaps because of His isolatedness from Adyasakti that He is here represented in the Saktananda-Tarangini as inactive (Niriha) and functionless (krityam nasti kadachana). So everything remains here in a potential state. Now it is quite clearly suggestive that the coupled deities dominating the functions of the chakras in which they lie united, are nothing but symbolic representations of sex-libido and that the energies inherent in six chakras, however differently named as Hakini, Shakini, Kakini, Lakini, Rakini, and Dakini, respectively in order, are but the varied differentiations of the same libido. Now these Vrittis (dispositions) are seen to have their energy derived from the sex-libido which has become sublimated and differentiated from its primal function [2] in proportion

[2] The Sahajiya cult is based on the conception of Muladhara energy passing right up to Sahasrara in undifferentiated and unsublimated form.

as it acts remotely from Mutadhara which is shaped like a young girl's yoni (vulva) and where Devi Kundalini lives in continuous co-habitation (ramitwa Sambhuna sardham Kundali Paradevata —Jamala) with Svayambhu-linga breathing in the red Kandarpa Vayu or air of Kama (*i.e.*, sex-desire) which pervades the center and where lies also the seat of creative desire. This sex conception given to Muladhara will not go contrary to nor will create inconsistency with its being represented as an abode of bliss. Gheranda Samhita while describing Layasiddiyoga which is accomplished by the celebrated Yoni-Mudra has clearly referred to the Yogananda (Yoga bliss) (which is specifically ascribed to the function of Muladhara) as derived from Sangama (sexual union) and this bliss has been identified there with Shringarasa (sexual passion or sentiment).

The awakening of Kundalini and Her passage through the different centers to the Sahasrara will lend further support to this view. The Yogi is directed first to fill up his body by air which will go to excite Kandarpavayu, *i.e.*, the sexual desire by kindling fire within; and then by contracting the anus closely the Kundalini is to be roused. Sakti-chalini Mudra, Vajroli Mudra and Aswini Mudra are generally used for this purpose. The process given for awakening Kundalini seems to be one which will certainly excite autoerotic pleasure by anal and genital stimulation. The schools of Black Magic are said to use Kundalini simply for the purpose of stimulating the sexual centers.

Thus awakened, Kundalini moves upwards and in Her upward movement as she reaches a particular chakra that lotus opens out and lifts its flower upwards while the Devas, Shaktis, Vrittis and all else therein become dissolved in Her body, and as soon as She leaves it for an entrance into a higher Chakra it closes and hangs downwards. The Kundalini has then in her progress upwards absorbed in herself all the kinetic energy with which the different centers and the Vrittis (dispositions) remain surcharged and then becomes united with Parama Shiva at Sahasrara. This is maithuna (coition) and the nectar which flows from such union floods the kshudrabrahmanda (microcosm) or human body. In the Chintamani-stava it is said, "This family woman (Kundalini) entering the royal road (Sushumna), taking rest at intervals in the secret places (Chakra), embraces the supreme spouse and makes the nectar to flow (in the Sahasrara)". The Saktananda-Tarangini also has described this union exactly in the same terms. Besides, it is also said that the Sadhaka becomes at this stage forgetful of all in

this world and is immersed in ineffable bliss. The whole process is quite significant. We have already indicated that Kundalini Sakti is the embodiment of all forces, it being the fundamental force from which all others are differentiated. The very word Kundalini, if literally translated, also points to that. Kundalini Sakti implies even literally that every force is encoiled within it. So one may be tempted to substitute for it the psychoanalytic term libido. But libido is still open to controversy. Adler defines it in terms of the will-to-power or the instinct of self-assertion. Boris Sidis stands more or less on the same plane with Adler when he refers all neuroses to some trauma of fear. But we are to accept, consistently with the Tantric conception of energy in creation and also congenital functions such as Vrittis referred to above, the interpretation of libido as given by Freud in terms of sex-instinct. This Kundalini (sex libido) becomes so strongly excited by Kandarpa Vayu in course of autoerotic stimulation described above that all energy given to different dispositions is drained into her in course of her passage through the different centers till she becomes appeased in coition with Parama-Shiva at Sahasrara. This is what should be at the preponderant stimulation of sex desire.

Besides the chakras, there are, outside the nerve Shushumna, the two Nadis the Ida or Sashi (moon) and the Pingala or Mihira (sun) which are connected with breathing; but even here the writers of the Tantras have not shrunk to attribute a sex relationship to them. The Ida which is regarded as feminine (Shaktirupa) and as an embodiment of nectar (Amritavigraha) is on the left and the Pingala which is masculine as being in the nature of Rudra (Raudratmika) is on the right. This distinction between the two nerves speaks of the same thing we have so far maintained; that is, energy is always to be derived directly or indirectly from the sex-instinct; or in terms of physical science two forces, positive and negative, are always necessary in every form of activity.

The upward ascent of the Kundalini is after all a very difficult task which requires a Guru's (preceptior's) special instructions. The mind is to be wholly absorbed in it and to live in contemplation, quite forgetful of the external world. Then, when the Kundalini will reach the Sahasrara, feel herself in union (Samgama) with Parama Shiva and enjoy with Him the bliss which is Shringararasa there will be complete detachment of the libido from the world and all sense of mineness or self-interest will disappear. This is what is called the Nirliptabhava in which the energy is completely

detached from external activity and given to some form of internal mental activity. It certainly requires a deliberate and long continued practice of attention to meditation. This withdrawing of the libido from external world can aptly be expressed in terms of Dr. Jung as an introversion of libido. This kind of meditation is often exposed to a great danger in which the love withdrawn from the world becomes exclusively centered on the self and the narcissistic fixation of the libido takes place. So a Guru's direction is absolutely necessary for the successful prevention of the libido which is withdrawn from the world from becoming attached to the self; otherwise the Sadhaka may fall a victim to dementia precox.

This is only one aspect of the Tantras but all others can be studied in the same sense upheld in it.

THE LOGIC OF SUBLIMATION: A CRITICISM

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THE concept of sublimation is one of the most important of Freud's contributions to general psychological theory. It has been defined as consisting in the expressions of a tendency which he would regard as a repressed wish, along socially serviceable lines. In essence it is claimed that a primitive drive—the psychoanalysts would claim that this is always the sexual drive—becomes deflected from its original goal, but without losing its impetus, or in any way weakening its influence upon mental life. In this way it can be utilized for the most sophisticated ends of culture, and can culminate in all sorts of outcomes that have nothing at all to do, at least in appearance, with its original meaning.

Now it is clear that here we have a principle of very far reaching significance. Attempts have been made to show that sublimation, if it takes places at all, can be found in many connections other than that of sex. For instance, Stanley Hall (*American Journal of Psychology,* 26, 1915, 438–443) and Wesley Raymond Wells (*Pedagogical Seminary,* 28, 1921, 73–77) have pointed out its application to such non-sexual instincts as anger, self-assertion, fear, and curiosity. Considerable attention has also been called to its obvious relationship to education, and it has been pointed out that the whole educative process may not inaptly be conceived as a remoulding and sublimating of the original, primitive, anti-social and egocentric tendencies that are so characteristic of the little child. But above and beyond all this, the concept of sublimation lies at the very heart of that type of psychology which tries to reduce human behavior to the interplay of a small number of accurately defined impulses, of which the instinct theory in its pure form is the most influential manifestation. If we think that human conduct in all its complexity and variability arises wholly from a small number of rather simple instincts, which constitute the motives of all possible actions, and that in order to understand a course of conduct it is necessary to resolve it into its original instinctive combinations, then indeed, whether we use the term or not, the concept of sublimation as understood by the psycho-

analytic writers becomes absolutely indispensable. Indeed the Freudian psychology itself is simply an instance of this general tendency of thought, for he reduces human behavior to the operation of one, or perhaps two instincts—the sexual instinct or "libido" and the "ego-instinct". It is this setting in the body of current psychological thought that makes the theory of sublimation so important and so worth critical investigation. On our decision to retain or reject it will certainly depend many of our explanations of human mental life and our social interpretations.

At first sight there is no doubt that the notion of sublimation seems remarkably plausible. It appears to correspond to a great deal in our common experience. One of the best of all ways to deal with sexual difficulties is to concentrate on socially serviceable and morally "uplifting" tasks. And surely the correlation between creative artistic and literary effort and the finer forms of sexual stimulation is something more than a romantic fiction. Then, too, if we take sublimation from the side of pure formal logic, it seems far from being untenable. The picture of the human mind utilizing the great energy stream of the "lower" tendencies for all sorts of purposes, much as a power plant transforms and utilizes the energy of the water that passes through its turbines is neither incoherent nor unimpressive. And certainly the program implied—the program of analyzing complex types of behavior back to a few simple fundamental drives—is attractive in a high degree to anyone who has a taste for neat logic.

Only when we turn to a closer scrutiny of the precise part assigned to sublimation in the theories of the psychoanalysts, and to the characteristics that are supposed to mark it off from other closely similar processes do serious doubts begin to arise in our minds. It is with considerable surprise that we learn that sublimation is by no means the only "mechanism" by which the energy of the lower and more primitive impulses can be deflected and utilized for socially important ends. This is brought out very clearly by Jones in his discussion of anal-erotism. (*Anal-erotic character traits* in his *Papers on Psychoanalysis.*) He finds that the primitive attitude of the child towards the business and products of defecation has a two-fold aspect. On the one hand, the child wishes to postpone defecation as long as possible, so as to gain from it a maximum of pleasure when it is finally consummated. On the other, the child wishes for the utmost freedom and vigor in the final consummation of the act, and for precisely the same reason. Thus we have an impulse to keep, and an impulse

to give out, inextricably connected with each other. And both of these impulses, it is said, register in general behavior, and deeply affect the whole life process. But both of them may give rise to entirely contradictory character traits, according as to whether they are sublimated, or set up reaction formations. The most typical sublimation product of the retaining tendency Jones finds to be parsimony, while its chief reaction formation is orderliness. The chief sublimation product of the "giving out" tendency is generosity, while its main reaction formation is horror of dirt and love of cleanliness. These instances make the distinction between the two psychic mechanisms involved clear enough. Sublimation takes place when the original sense of value is retained, and when all that happens is that the behavior is translated to a higher, more complex, and more general level. Reaction formation, on the other hand, makes its appearance when the original value is lost and negatived. The obvious paradox and difficulty that is involved here is that it seems not to make the slightest difference, as far as the transfer of energy from the primitive impulse is concerned, whether the original sense of that impulse is retained, or whether it is precisely negatived.

Again, we find Freud drawing a subtle distinction between sublimation and idealization. Idealization is best exemplified in the psychic evolution of self-love or narcissism. One of the characteristics of the polymorphous perverse child is his intense interest in his own body and the pleasures that it can yield. As he grows up many influences combine to wean him away from this primitive attitude. If there is no hereditary taint, and circumstances are favorable, a great deal of the love or libido that was at first directed towards the child's own body becomes transferred to other objects, and here we have a characteristic piece of sublimation, that is to say, a process where the object of the impulse is transformed without the impulse itself losing its essential and easily recognizable character. But another part of the narcissistic drive becomes diverted to the setting up of what Freud calls the ego-ideal. That is to say, the love which in infancy was concentrated upon the real ego now comes to belong to an ideal one. It is this narcissistic and infantilistic origin of many of our ideals of personality that is said to give them their peculiar strength in later life. The difference between sublimation and idealization seems roughly to be this: With sublimation we find a deflection away from sexual goals, and this is by no means necessary in the case of idealization, for a sexual object can be idealized.

And the dynamic effects of the two processes are diametrically opposite. For sublimation is one of the characteristic outlets for repressed tendencies, while idealization strongly favors repression.

It would seem then that the simple and relatively plausible scheme of the Freudian psychology is somewhat seriously compromised. Ordinarily we are given to suppose that there are three possible outcomes to the conflict between the libido and the conventional demands of society. These are the formation of perversions, the development of neurotic symptoms, and sublimation, and they are all supposed to have close logical interrelations. But now we find that it is necessary to recognize two further alternatives—reaction formation, and idealization. And both of them seem to be of dubious validity. This is the case with reaction formations because here we have the impetus of the primitive tendency utilized in a direction that is not merely different from, but precisely contrary to its original sense. And idealization seems questionable also because it amounts to a solution of the conflict, not by releasing it, but actually by increasing the very resistance in which it originated. And this might well seem to favor unfortunate and pathological rather than socially and personally propitious outcomes.

Furthermore, all our difficulties in understanding these mechanisms and precisely analyzing their effect upon behavior are very greatly increased when we find that they do their most characteristic and far-reaching work in the realm of the unconscious. Jones insists upon this in most emphatic fashion. "It is important to bear in mind that the process of sublimation is mainly an unconscious one; that is to say, it takes place without the subject being aware of it." (*The significance of sublimating processes.*) And he appends the following significant quotation from Loewenfeld. "It is not the 'sexual hunger' that forces itself into consciousness, *i.e.*, sexual desire felt as such, that brings about the furthering effects of sexuality upon our mental life. This influence comes solely from the hunger that has been driven down into the subconscious or which has never entered consciousness at all (or the central excitations corresponding to this)." And again, we learn that sublimation plays a relatively small part in the lives of adults. It may be, perhaps, that an adult who is struggling with some unfortunate sexual habit will be able to give the sublimating process a start by following the usual good advice, and absorbing himself in work or sport. But predominantly sublimation is an

affair of childhood, and of early childhood at that. Its work is done at that period of life when we first are compelled to recognize and submit ourselves to the demands of society. It is then that the supreme conflicts of life are inaugurated, and it is then that the achievement of constructive solutions is most imperative. If sublimation fails during early childhood, the implication is that it is never likely to succeed very conspicuously.

Thus these various processes of sublimation, reaction-formation, and idealization, so subtly distinguished from one another, and often so inherently dubious, seldom or never work themselves out where we can easily and directly observe them. Their operations always seem to go on behind a veil, as it were, and remote from the eye of the investigator. And here we come upon one of the crucial difficulties of the whole account. For just how do we know that the processes in question ever really take place at all? We are required to believe that primitive tendencies can be hitched up to very complex and sophisticated types of behavior, without losing their original character and identity. Indeed we must go further than this, for as we have seen, the hypothesis is that these tendencies can be brought to operate in directions precisely contrary to their original sense, and still without any sacrifice of their identity. But if we look at the obvious facts of behavior, whether in ourselves or in others—that is, using either the introspective or objective modes of approach to the facts of mental life—we see nothing of all this. Indeed it is all, *ex hypothesi,* concealed from direct scrutiny. All that we see is that the child behaves in one way, and the adult in another. We recognize, to be sure, in the infant, a very impressive fund of primitive egoism, and we know that little by little this comes to be eliminated, partly by the forces of education, partly, no doubt, by mere growing up. But we are in no way apprised that this primitive egoism remains the motive behind the complex social activities and adjustments of the adult. And it is clear that any such hypothesis must be based on very adequate evidence. This, to repeat, is one of the crucial difficulties in the whole account of the mechanisms of release.

In general the hypothesis on which the theory of sublimation depends is based on the procedure of "exploring the subject's unconscious". This again is achieved in two ways—by free association, and by applying the theory of recapitulation. Let us consider these in turn.

It is said that we can show the identity of motive underlying some current complex piece of adult social behavior, and primitive

infantile tendencies by beginning with the former and working back step by step to the latter by means of free association. Now there is of course no doubt that psychoanalysis presents a wealth of clinical analysis showing that if we initiate trains of free association at some point in adult mental life, these will run back to infantile experiences of a sexual nature. So much is fact. But what does it prove? We must reply that it seems to prove very little indeed. First of all we should bear in mind that associative materials are very rich and abundant, so that, theoretically, we would naturally suppose it possible to start almost anywhere, and reach almost anywhere, indifferently, and that very arbitrary interpretations would be inevitable. But the psychoanalysts reply that what seems like perfectly free association is not really so, but that the linking of one idea to another is always determined by deep and constant motives, which cannot but reveal themselves if we will only explore the mass of associative materials with sufficient patience and thoroughness. That is, it is claimed that the dynamic drifts underlying personality and conduct will always show through if only we take enough time and unearth enough material. Now we may of course admit, as a safe general proposition that what we call free association is not really entirely arbitrary. So much is merely an inference from the principle of the uniformity of nature. But it is entirely formal, and in no way proves that the course of association is controlled by deep and basic motives. It could just as well be controlled by the most ephemeral and transitory causes. And furthermore, this argument of the psychoanalysts can be used as a weapon against them, for there is not the slightest doubt that in many subtle ways they convey to the patient a certain line of thought. The psychoanalytic seance is by no means free in the laboratory sense. It is intimate and personal and involves contact with a practitioner thoroughly convinced of a theory about human nature and the origin of human actions. And admitting that free association is easily guided by extraneous circumstances we simply cannot believe that the influence of the physician on his patient will fail to register here.

Then another most serious difficulty with the association method is that the mere fact that the patient comes to associate an adult social behavior with a primitive childish experience, is absolutely no proof that they are causally related, still less that there is a substantial identity between them, so that the latter, as it were, lives on in the former. When we have explored the patient's associations we have done just this, and not another thing. We have not explored the etiological roots of his present-

day conduct. The mere fact that ordinarily association is not reversible ought to warn us of this much. A desire to sneeze may lead us associatively to think of and reach for our handkerchief, but the thought of the handkerchief does not produce the desire to sneeze. And it would be most absurd to claim that the desire to sneeze was really a sublimation or a symptom-formation only to be understood as really expressing a desire to take out and use a handkerchief of which we were proud. Yet this is precisely the logic that is involved in the exploration of the unconscious by free association.

It seems then that the association method will not yield satisfactory evidence for the view that primitive tendencies, remaining unchanged and preserving their essential identity, must be taken to account for complex social reactions. Let us see whether the theory of recapitulation will offer anything better.

The notion of ontogeny running parallel with phylogeny underlies the psychoanalytic theory of symbolism. Certain images and objects, we are told, come to have a permanent symbolic value, and when we come across them in dreams, in myths, in primitive cults, or in the psychopathic clinic, their meaning is always the same. And this result is brought about by sublimation. Jones tells us that sublimation is an ontogenetic repetition of phyletic symbol making, by which certain objects came to have a special and fixed significance in the experience of the race. (*The theory of symbolism.*) And Smith Ely Jelliffe makes great use of the notion of recapitulation in dealing with clinical material and explaining case histories. (*The technique of psychoanalysis.*) Now it can only be said that this claim is wholly without foundation in ascertained fact. Arguments against the application of recapitulation to mental life have been repeated many times, and will not be taken up here. But in the psychoanalytic assimilation of the idea, we have it in its most wholly untenable form—the form in which every systematic difficulty is most aggravated. For here we are given no vague suggestion that perhaps the instincts unfold in a serial order determined by racial evolution, but we have the picture of a fatally determined, one-to-one correlation of individual and racial prepossessions and interpretations. The only evidence presented, to use a polite term, is the lamentable anthropology which characterizes the psychoanalytic school, exemplified in such works as Freud's *Totem and Taboo,* Rank's *The myth of the birth of the hero,* and Rank and Sachs' *The significance of psychoanalysis for the mental sciences,* in which all facts contrary to the thesis to be supported are ignored with a completeness so

astounding that it is hard to attribute it to anything but sheer ignorance. There can be no question that so far as the hypothesis on which the concept of sublimation depends is based on recapitulation, the case of the psychoanalytic school is not proven. An observation has been made which well shows the absurdity of the idea of a fixed sexual symbolism arising out of sublimation. According to psychoanalytic orthodoxy, any long object will symbolize the male genital, while any circular object will symbolize the female genital. But it has been pointed out that everything in the world is either longer or not longer in one axis than the other. And so the symbolic interpretation is exploded by its own universality.

In so far as sublimation depends upon association, it is clear that it is not well founded. But there is another piece of logic that has been put forward to support and explain it to which we must now turn. This is what Freud has called the "economic" as contrasted with the dynamic viewpoint. (*A general introduction to psychoanalysis.*) By this he means that in order to understand the relationship of the mechanisms of release to the pathogenic conflict we must take into account not only the quality of the forces at work but also their quantity. "We must say to ourselves that the conflict between two impulses is not released before certain occupation-intensities have been reached, even though the qualitative conditions have long been potent. Similarly, the pathogenic significance of the constitutional factors is guided by how much *more* of a given component impulse is present in the predisposition over and above that of another; one can even conceive of the predispositions of all men to be qualitatively the same and to be differentiated only by these quantitative conditions. The quantitative factor is no less important for the power of resistance against neurotic ailments. It depends upon *what amount* of unused libido a person can hold freely suspended, and upon *how large a fraction* of the libido he is able to direct from the sexual path to the goal of sublimation."

This idea of a quantity of mental energy or *elan,* which indeed figures largely in the work of many distinguished psychopathologists, is a very questionable psychological concept. Of course it is possible to compare the intensity of two impulses, and this has often been done with more or less precision and success under laboratory conditions. But in that case our criterion always is that the stronger impulse is the one to express itself in action, and this is all that we mean by one impulse being stronger than another. As to the weaker and defeated impulse, a good many

different things may happen to it. But what never does happen is that its intensity is merely subtracted from that of the stronger, so that the resulting action has just that much less impetus. In other words, though we can speak of impulses as being of different intensity, strictly quantitative considerations will not apply even here. And when Freud speaks of adopting the economic viewpoint, he is thinking of something far more ambitious than a mere comparison of the strength of two competing impulses to action. What he means is that underlying conduct there is a stream of energy to which quantitative considerations apply in all strict literalness—of which one can say that this man has a certain amount, and that man a different amount, which can be divided into fractions without losing its identity, and diverted in various directions, and put to various tasks. In fact, he has in mind a precise analogy to a stream of water or a current of electricity. In his earlier work, indeed, he even tries to explain this economic conception of mental life in physical terms by postulating an intracerebral tonus which determines the efferent neural discharges. But later he drops this notion—which by the way is entirely unfounded—and simply retains his idea of a stream of mental energy to which quantitative considerations will apply. Now such a conception is not based on facts at all. It is purely hypothetical. And it runs counter to all our real knowledge of human mental life. Behavior is not the result of an inner push or urge, but is simply the outcome of stimulation which gives rise to responses. All that we know of work and fatigue, all that we know of learning, all that we know of the effect of incentives and emotions upon conduct goes to invalidate the additive and quantitative conception of mental life. And when Freud tells us that one part of the libido can split off and give rise to sublimation products, that another can be retained for sexual goals, and that still another can be utilized for the production of mild symptoms, all that we can say is that his basic idea is psychologically unintelligible.

There remains, however, an essential truth to which the theory of sublimation is a standing testimony. It is simply this, that nothing is more important for the well-being of the individual as a coöperative member of society than that he shall have a free and unimpeded psychic development, particularly in the affective sphere. We may perhaps see the relation of this to sublimation most clearly by considering Jones' outline of the three chief ways in which the alleged process of sublimation may fail. (*The child's unconscious.*) (a) First of all, the primitive, childish tendency

may persist in its crude and untrained form. There is little doubt that all of us, in some details of our emotional living and our attitude towards the world remain childish all our lives, and of course where this condition is found to excess we have maladjustment and psychopathy. But here we have something that can be explained without any such notion as sublimation. It is a failure of education, due sometimes to hereditary, sometimes to environmental factors, rather than a failure to change the whole sense of the primitive drive while retaining its essential identity. (b) Again. Jones recognizes that type of faulty development where the original childish tendency is violently negatived. "For instance, the passion for nudity, which is so strong in infancy (*sic*), may lead by way of reaction to the opposite characteristic of excessive shyness, bashfulness, shrinking, and self-consciousness, which may be of torturing severity and greatly hampering in the practical relations of life." Here again we have a clear case of the breakdown of sane educational procedures. There is not the slightest need to assume a violent exhibitionist urge which goes over to its ambivalent opposite, but only a special affective pressure, somehow brought to bear by parents or intimates, and made unusually effective. (c) The third type of failure to which sublimation is supposed to be liable is that of symptom formation and the development of a neurosis. To discuss this point adequately would lead us altogether too far afield. but we may merely point out that our criticism of the basic logic of sublimation applies in many respects to the Freudian theory of the neuroses. and that the alternative explanation is necessarily in terms of some intimate educational failure.

Again, all the conditions laid down as favoring successful sublimation point to an explanation in which this concept can be wholly eliminated. These conditions are first that the primitive tendency shall not be of overwhelming and unmanageable strength; second, that the repressing forces shall not be so immovably strong as easily to give rise to pathological conditions, and, third, that there shall be adequate opportunity for happy exteriorization. But after all this amounts to no more than saying that free psychic development depends first on a constitution reasonably free from hereditary taint, and second on sane educational and euthenic treatment.

All in all then, our conclusion must be that the concept of sublimation is based on a logic that is radically faulty, and that the facts with which it proposes to deal can all be explained very well along totally different lines.

CHARACTER AND ABNORMAL PSYCHOLOGY

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THE attitude in the field of abnormal psychology toward such ethical concepts as "character" has within recent years been thrown into a certain dubiety, probably because of the somewhat unorthodox statements by Freudians, the effective disintegration of scholastic conceptions of personality by Dr. Morton Prince and others, and the relatively unorganized condition of much of the field of abnormal psychology, particularly in relation to ethics. It is the writer's intention in this paper to state a conception of character which agrees in some essentials with definitions by a number of ethicists,[1] and which seems to express the fundamental interest of all students of abnormal psychology.

For students of abnormal psychology *are* interested in the mechanisms that produce and support moral character, and they are concerned with the standards by which it is evaluated. On the latter point, probably the majority of abnormal psychologists incline definitely to the modern conception of ethics. This modern conception has been formulated by one writer as "the science of values in their relation to the conduct of life as a whole";[2] meaning by life, this life, with its biological heritage and human developments. Accordingly, probably the majority of abnormal psychologists would agree with such critical discussions as, for example, Professor Everett's "Non-Ethical, Ethical, and Anti-Ethical Elements of Religion",[3] or the same author's treatment of "The World-denying and the World-affirming Spirit".[4] But many abnormal psychologists have been so conscious of the truly anti-ethical elements in popular evaluations of character, and so aware of the evolutionary nature of *mores* in general, that they have failed to make explicit their essential agreement with the modern ethicist's understanding of the relation between "Moral Law and Natural Law", to illustrate once more from this one of the current texts.[5]

[1] De Laguna, Drake, Everett, Perry, Sharp, and others; also, from the psychological side, Holt, McDougall, Warren, and Woodworth.
[2] Walter Goodnow Everett. Moral Values, 7 (Holt, 1918).
[3] *Op. cit.*, 396–405.
[4] *Ibid.*, 425–428.
[5] *Ibid.*, 312–318.

This is not the place for any attempt to define the standards by which character should be evaluated and to which character should seek to conform. Such questions are discussed in the texts on ethics. From the psychological point of view, however, what character is, in terms of mechanisms, is important. From this point of view, the following broad definition is submitted:

We may define character in terms of degree of ethically effective organization of all the forces of an individual. In other words, the more ethically approvable the integration of an individual, the "better" his character. A suggestible hysterical may have such a fluid personality that he does not possess any very effective organization. Organization involves some degree of inhibition.[6] On the other hand, a paranoic, or an obsessed person, may have very definite organization of his inner forces; he may accomplish great things. Yet such organization may not be ethically effective: it may be directed at unworthy objects, or may be incapable of adapting to improved methods, or of recognizing that new conditions require new virtues. To be ethically worthy, an individual's integration must be good for the life of individuals in a community.

The chief function of this definition is psychologically to distinguish character from temperament, mood, intelligence, and other aspects of personality. And it is clear that this general conception of character points directly to many of the specific conceptions of abnormal psychology, as well as of general psychology, as mechanisms of explanation and control.

[6] Cf. A. A. Roback. "Character and Inhibition," in the Prince commemorative volume, *Problems of Personality* (C. Macfie Campbell, etc., Eds.), 79–138, for a discussion of the psychological rôle of inhibition in character in general, regardless of ethical evaluation.

REVIEWS

PRINCIPLES OF PSYCHOTHERAPY. By Dr. Pierre Janet. Macmillan, New York, 1924. Pp. viii + 322. Price $3.00.

LA MÉDECINE PSYCHOLOGIQUE. By Dr. Pierre Janet. Flammarion, Paris, 1923.

"Principles of Psychotherapy" or "La Médecine Psychologique" is divided into three parts. In the first part, Janet takes up the evolution of the various methods of mental treatment by showing their historical origin. He briefly describes miracles; animal magnetism; cures derived from animal magnetism, such as "Christian Science" and hypnotic suggestion; therapies derived from religious practices, such as isolation treatments, reëducation, and treatment by faith and works; and psychophysical treatments, such as visceral theories of the different neuroses, indirect psychological and rest treatments. The author is very kindly and charitable in his treatment of the different methods, finding in each some fundamental truth somewhat obscure and vaguely expressed. In none of these, however, does he find the culmination of his ideal.

The second part of the book goes more deeply into the study of psychological phenomena and the laws on which the most interesting of the methods of psychotherapy are based. Janet finds that these methods for the most part lack precision and need a scientific foundation. Most of them are based on some psychological notion, vaguely expressed, which has not been analyzed. He finds inaccuracy of the records of psychological phenomena and very inaccurate interpretation of the same. Certainly students of psychology will agree with the author in the following statement. "Physicists wanted to make use of electricity before they had made out its laws and phenomena. From time to time they obtained some results, but they could not teach practical methods. Physics had to analyze electrical phenomena and not describe electricity in general under different names. Psychotherapy will not be able to develop unless psychologists discover . . . some notions of the forces of the mind that will be more precise and more fruitful."

In part three there is a discussion of the application of the methods of treatment, previously mentioned, and the chances of these methods being applied with success.

The author takes up the question of diagnostic psychotherapy. He scores the psychotherapist who adheres closely to a preconceived method. "What would be thought of a physician who would boast of giving digitalis to all his patients while his fellow physician's specialty was the giving of arsenic?" He then gives his opinion regarding the treatment of mental disease, saying that, "If the physician is not convinced in advance that he is going to find an event responsible for all the disease and if he does

not stubbornly demand that this event be of a sexual order, he will be able to make this examination with tact and without unduly troubling the patient."

It is interesting to note that Janet holds to his former position with regard to the hysterical and the hypnotical. "I am forced to keep the opinion that I formerly expressed, that hypnotism, whatever may be the method of obtaining it, belongs in the group of somnambulisms, just as suggestion belongs in the group of impulsions." Suggestion and hypnotism, which is for Janet an automatism, do not receive here as thorough a treatment as is given them by some of the American psychologists, namely: Judd, Gault, and Allport.

Contrary to the preconception of some, Janet is in harmony in his views with Payot, who might be termed distinctly behavioristic. Throughout the book he speaks of "action" and "tendencies" (*"tendances"*) and writes of "stimulus" and "response". This appears to underly his conception of psychic "tension" (*"tension"*). In this connection we might remark that *"tension"* can be translated into terms of integration, lack of *"tension"* being dissociation. Then too, *"moraux"* instead of being translated as "moral", can and should be translated as "intellectual", "emotional", "mental" in a broad sense, or perhaps even "functional".

In general the book is written in graphic but not always clear style and is somewhat repetitious. Loose statements and sweeping generalizations abound, leaving the book hazy, not clear cut and analytical. And yet its avowed purpose and spirit seem to be an effort to give a perspective which will inspire openmindedness and experimentation on the part of the psychologists of to-day. This is shown in the last statement in the book in which Janet expresses the hope that the book will not prove ". . . entirely useless to those who will one day discover the rules of . . . good administration of psychic funds".

H. E. Pressey.

Personality in the Making. By Joseph Herschel Coffin. Boston: Houghton Mifflin Company, 1923. Pp. 314.

"What is the content of the term *personality*?"—constitutes the question which Dr. Coffin proposes. His answer represents primarily an ethical point of view, but one with definite metaphysical implications and pronounced psychological presuppositions. In spirit the book is didactic, having as its dominating purpose the presentation of a teleological account of personal life and social development. The author's thought is advanced in an attractive style, generally free from technical terminology, and with an absence of minute analysis and precision in definition, which will bring a sense of understanding to the general reader, though possibly not a little confusion to the psychologist and philosopher. Despite its popular style, however, the book is not without contributions to contemporary scientific and philosophical thought.

The author begins by frankly stating "the four corner-stones" of his philosophy of life. These are: (1) "personality is the biggest fact in

the universe''; (2) ''personality is fundamentally spiritual in nature''—''a psycho-social-spiritual organism''. By *spiritual* seems to be meant *teleological*, as opposed to *mechanistic* (p. 8); (3) evolution is the great anti-mechanistic theory, and is to be welcomed as ''the road that personality travels from its origin in the race and in the individual through its stages of development to its destiny'' (p. 10); (4) personality, as the final fact in the universe, must be made the end of all social (especially industrial) enterprises. So definite a statement of presuppositions is indeed useful, but some surprise at the daring which can *assume* such presuppositions, may be pardoned. Furthermore, the ambiguities of the statement constitute quite as serious difficulties as its courage. There is, first of all, the question of precisely what is meant by *personality*. Obviously the term is not used in a sense common to psychologists, but bears a philosophical connotation. What is the relationship of *personality* to the *self* in the author's thought? What is meant by a *spiritual organism*? What is implied with reference to the *origin* of personality in the race and in the individual? What is intended by calling personality the final fact in the universe? Is the reference to logical eminence, to value, or to creative activity?

With presuppositions stated, the author turns to the construction of his argument. This task he divides into three parts, considering (1) the ''Historical Life''; (2) the ''Socializing Process''; (3) ''Psycho-Social Development''. By the ''Historical Life'' the author means to suggest a continuity discovered in a longitudinal view of a life, as opposed to the cross-sectional view common to general psychology. (p. 23; 47ff.) To it belong those states, attitudes, and tastes which seem to survive from one momentary experience to another, integrating the whole into some kind of pattern whose features we identify popularly with the individual personality with which they are associated. According to our author, the *Historical Life* is characterized by *Interpretation, Appreciation,* and *Organization*—three activities which knit the complex of human experiences into a series instead of leaving them as a mere sequence.

The author calls attention to the significant fact that ''organic elements—sensations and affections—of experience'' acquire meaning and function only through the process of interpretation—a fact of great and frequently neglected significance for scientific method. These organic elements, it is believed, become organized into self-directive personality by means of the two laws of assimilation and organization. Mental growth, like that of plants and animals, is thought to progress by the process of assimilation—the child's increasing knowledge of the nature of an object and the amoeba's assimilation of food are illustrations. It seems unfortunate that illustration here takes the place of accurate description of exactly what is meant by mental assimilation, for the point is a vital one. At the same time, development through organization is said to advance through differentiation and integration. Of preëminent importance to the author is the point that such organization implies a purpose or system

of purposes, and he concludes: "In any event, organization is the more subtle processes of setting the different phases of conscious life in a certain relationship for the sake of a purpose or system of purposes." (p. 64.) As to the source and nature of this purpose, and its presence as pattern existing logically prior to the integration of personality which it guides, we are left in some confusion. Similar in some respects to *Interpretation* is the function of *Appreciation*, which is briefly defined as "sentiment at work"—for as the judgment is the dynamic point in thought, so sentiment is the "dynamic evaluating function within appreciation". It is the place of appreciation to introduce an order and unity into the feeling side of experience, without which the Historical Life cannot be satisfied.

But personality is more than a psychophysical organism, Dr. Coffin maintains. The needed element to be added is social, and the true definition of personality is a *physico-psycho-social organism*. Man's mental and social natures are found to be inseparable, and "man is rational by virtue of his sociality as truly as he is social because of his rationality". (p. 136.) The levels of mental development are thought to correspond to levels of social environment, each mental level being made possible by achievements of the race. Mind is said to have a social origin; consciousness is social in texture; and personality cannot develop apart from society. *Interpretation, appreciation,* and *organization,* the three activities of the Historical Life, "have their origin in large measure in the social life in which the individual is bathed". (p. 141.) Language, imitation, suggestibility, and play are named as chief modes of socialization. Tradition and Public Opinion are social factors which are described as most closely related to Interpretation; Crowd Feeling and Public Sentiment to Appreciation; Mob, Convention, Custom, Campaign, and Organization (*e.g.,* army) to Organization. (pp. 179–208.)

It is the task of the school not only to "bring the historical life to birth" but also to develop a consciousness of social relation in its students. Socialization is the condition of all mental development. The purpose of vocation, likewise, is the development of personality, and again it is emphasized that this necessitates socialization. A task yet remains for the author in concluding his book. He has maintained that the individual's integration depends on a teleological purpose. The integration of society must have a like basis. The final step is the connection of the teleological system which is personality, with that which is society, and with that which is the universe. This last step is accomplished through acceptance of a Personal Deity, in whose rulership a divine purpose dominates and brings together these three realms.

Thus the book, taken as a whole, presents a logical and ethico-religious study of personality rather than a psychological one. The task has been attempted frequently enough, and not seldom with greater critical accuracy than the present work appears to embody. On the other hand, it is of no small value to point out again, as Dr. Coffin has done, the presence of interpretation in all the data of science. In so doing he has suggested

the difficult question, however, of the relation of scientific method to the epistemological problem. If all is interpretation, what shall be science's attitude toward these representations with which it must work? Must it assume an epistemological position, such as that of naïve realism and risk its labors to the validity of this view? Or may the question be ignored, and left for the philosopher, while the scientist works with his data as if it were exactly what it appears? Dr. Coffin's teleological system is likely to prove both valuable and suggestive to the theist.

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ALMOST HUMAN. By Robert M. Yerkes. Century Co., New York City. 1925. Pp. xxi + 278.

In the present volume Yerkes has given the lay reader a comprehensive and most excellently written account of the lower primates. The major portion of the book is based upon observations made by the writer in 1924 at the estate of Madam Rosalia Abreu in Havana, Cuba. Madam Abreu's colony of primates contains nearly eighty animals of the sub-order *anthropodea,* including: marmosets, squirrel, titi, owl, wooly, and spider monkeys, howlers, and capuchins; macaques, mangabeys, baboons, mandrills, guenons, monas and black apes; and of the great apes, the *simiidae,* a Wau-Wau gibbon, orang-outan, and chimpanzees. These animals are housed under almost ideal conditions. Yerkes tells the story well of Madam Abreu's personal interest in monkeys and apes and makes clear the debt that science owes to her devotion and foresight.

Inasmuch as a review of Yerkes' extensive citation of observations is impracticable, I shall only indicate the general captions under which these observations are grouped. Omitting certain chapter headings, the groups are as follows: who is a primate?; a unique collection of primates; primate intelligence; accident or insight?; affection, sympathy, and related social experiences; fear, rage, resentment, and hatred; anthropoid speech and its significance; from generation to generation (mating and related behavior); and the care of primates.

The most distinctly experimental work in monkeys and apes is treated under the title "Accident or Insight?" Reference is here made to the work of Köhler, Ladygin-Kobts, Boutan and Yerkes.

The reviewer would offer only two criticisms of the work: first, the bibliography is obviously incomplete, although it contains many technical references of little or no interest to the general public; and second, more details might have been given in the classification of primates. Other disadvantages which the work has for the technical reader may well be excused in view of the popular intent of the work. The book is profusely illustrated with magnificent photographs.

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A Theoretical Basis of Human Behavior. By Albert Paul Weiss, Ph.D., Professor of Psychology, Ohio State University. Columbus, Ohio: R. S. Adams & Co., 1925. Pp. xvi + 428.

Professor Weiss first states the fundamental principles of behaviorism, and then compares these principles with the concepts of traditional psychology. An attempt is made to bridge the gaps between traditional, popular, and behavioristic psychology. The book is a serious attempt to formulate the theoretical assumptions of behaviorism in some detail and in a systematic way. The result is disconcerting, however, since many familiar concepts seem almost to vanish without a remainder.

The fundamental principles are stated in the first two chapters. The position is that of physical monism, and the ultimate elements are the electrons and protons of physics. Human behavior is a function of contractile tissue. Like the physical scientist, we should stoutly refuse to accept a spiritual explanation until the mechanical assumption has proven futile. The author believes that whenever there is some semblance of order and system in the alleged mental activities, it is necessary to appeal to physical factors in order to explain them. In these cases we are dealing with relationships between physiological processes, rather than with non-physical forces.

Professor Weiss refuses to be intimidated by some abstract speculations and broad generalities. Metaphysics, for example, "is merely a form of behavior which familiarly is known as 'guessing' and which technically consists in developing a verbal description of what probably would be observed if more refined experimentation or observation were possible". (p. 40.) The metaphysical problem becomes the problem of understanding, describing, and explaining the conditions under which the language habits of the metaphysician have been acquired. Special care should be taken not to regard the whole universe merely as an episode in man's consciousness, because this would grossly exaggerate the importance of our species. Psychology is the brother of physiology. Let us therefore use the method of science; and if we must have a metaphysics, we should embrace the electron-proton theory of physics.

The author shows the practical advantages of the scientific approach to human problems, and points out the inconsistencies in the dualistic hypothesis, which is the main scrap in the behaviorist's wastebasket. The behavioristic program is extended to include the more important psychological concepts. A partial list of the topics which are considered is as follows: teleology, biophysical vs. biosocial, the evolutionary series, variability in behavior, individualization and socialization, the human response, cerebral integration, the biosocial response, the social status, consciousness, introspection, mind, image, sensation, speech, thought, desire, purpose, volition, motivation, emotion, the esthetic response, measurements, and ethics.

The book should be read by all psychologists, and it is well adapted to the general reader. The language is non-technical, and the systematic

position is made clear by a reasonable amount of repetition. The subjects of psychoanalysis, Gestalt, and the conditioned response, however, are scarcely mentioned, and some might have desired a larger number of cross references to other writers on scientific psychology. The theory of behaviorism seems to be limited by the language difficulty, because most of the terms in traditional psychology, although they are indefinite and hard to define, still stand for something and are in common use.

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THE PSYCHOLOGY OF HUMAN SOCIETY. By Charles A. Ellwood. New York: Appleton, 1925. 495 pp. $3.00.

The jacket of Professor Ellwood's book states that it is "a complete summary of the scientifically established principles of sociology and social psychology", that it offers "a clear introduction to the theory of modern sociology and outlines the whole field of social theory". Except for the one word "clear" the jacket statement is not unwarranted, and it is perhaps the ambitiousness of the undertaking which makes perfect clarity almost impossible.

As to Professor Ellwood's psychology, the present reviewer does not feel competent to judge. To a layman it seems that he has made a gallant and on the whole successful attempt to present both sides of the present controversy between the instinctivists and the behaviorists, remaining himself the while clearly in the center of the field seated high on the fence.

The distinction between the field of psychology and that of sociology on the basis of their separate interests—the former in the individual and the latter in the group—while by no means new, is definitely and clearly made at the very outset. The relations between individual and society are so complex, however, that it is as impossible for anyone to understand psychology without some knowledge of group organization and the reaction of the group on the individual as it is to understand the group without knowing something of the individual minds that compose it.

Professor Ellwood's concern is mainly with group activities. Individualistic hedonism meets with merited sociological scorn. Not only the past development of culture but all future developments are conditioned by group activity. Consequently the major portion of the book is devoted to a study of group life. The relation of the group to organic evolution and to mental evolution comes early, followed by a study of the primary group, in which the author acknowledges his indebtedness to Professor Cooley. Following this come what seem to the reviewer the most significant and interesting sections of the book dealing with *group unity, continuity,* and *normal* and *abnormal changes* within the group. In these chapters he takes up such fundamental historical and social problems

as the reason for change, causes of revolutions, tradition, the great man theory, radicalism and conservatism, and social education.

Readers of Professor Ellwood's previous works know his characteristically optimistic approach; in this discussion, at least, he displays also a definitely realistic grasp of his subject. It would be well for the National Security League to read and take to heart the following:

"Agitators, Utopian and radical thinkers do not cause revolutions, but rather voice discontent which already exists."

Some of our educators might also carefully consider Professor Ellwood's statements in regard to education:

"Education . . . in the hands of the authorities of church and state, has frequently become one of the chief instruments by which normal social change has been prevented. When education inculcates a philosophy of life which favors submissiveness, conformity, and looking to the past for all wisdom, then it becomes a powerful means of preventing progress. Progress comes only with the plastic mind and the free spirit."

Ellwood's comments on Social Progress are suggestive, especially his denial that the economic criteria of progress are all important. He claims that the economic theory is wrong because it assumes that the adjustment of individuals and groups to *things* is all important, whereas the really important adjustments are those which human beings make to one another.

No matter what sort of a book is written nowadays it seems necessary that nationalism and internationalism should receive consideration, and Ellwood does not disappoint us. His concluding chapter "Humanity as the Ultimate Group" points out the limitations of nationalism from a sociological point of view and urges an "ethics of service" for the larger world group as the ideal. He is unfailingly optimistic in his belief that "scientific sociology" will aid in the establishment of such an ethical point of view through humanitarian ethics and humanitarian religion, but he is not so clear in showing just how this is to come about.

Since *The Psychology of Human Society* is intended as a college text in social theory, it is unfortunate that it is in spots complicated and heavy reading. The use of such unauthorized, or at any rate unusual, words as "debarbarization" and "immoralism", for example, do not help toward clarity.

For advanced students and for philosophical sociologists and psychologists, the book serves a real need. For the general reader and the beginner in sociology or psychology it is too highly concentrated. Above all, however, it will appeal to the theologically inclined sociologist and psychologist. After all its general thesis was stated many years ago in simpler words but quite as unmistakably:

For whosoever will save his life shall lose it; and whosoever will lose his life for my sake shall find it.

Robert C. Dexter.

Skidmore College.

SOCIAL PSYCHOLOGY. By Knight Dunlap, Professor of Experimental Psychology in the Johns Hopkins University. Baltimore: Williams & Wilkins, 1925. Pp. 258.

Professor Dunlap, for one, argues that the time has come to regard social psychology as an independent social science. A convincing support of this proposition is given by Professor Young in his survey of the subject (see Barnes, The History and Prospects of the Social Sciences, Chapter IV), and many can be found who heartily agree. Yet if the texts of recent years which bear the comprehensive title "Social Psychology" are compared in respect to their contents it becomes evident that there is little agreement on the scope of this 'independent' science; and Professor Dunlap's book has even less in common with its immediate predecessors in the field than they have with each other. This newest text contains chapters on marriage and the family, the state, religious organization, sex differences, eugenics, the principles of social organization (communication, contiguity, standards of conduct, laws and conventions), and propaganda. Most of these subjects have generally been regarded as falling within the provinces of sociology, anthropology, and social ethics. Professor Dunlap pays little attention to the individual, his emotional and intellectual responses to congregate and imagined groups, his social nature, or the manner in which he achieves socialization. The method of the text is rather the application in a fairly random fashion of psychological concepts to a *pot-pourri* of social problems, contemporary and historical.

Folkways are recorded with an ardor characteristic of the older *Völkerpsychologie;* albeit, the inferences drawn therefrom are generally more discriminating. The folkways selected are usually such as illustrate the dependence of the individual upon some form of community, his race, his family, tribe, nation, or his band. There is throughout a marked tendency to apotheosize the group. Here then Professor Dunlap seems to join those social scientists (Wallas, Kroeber, Simmel, and others) who argue for a "super-organic" science to treat the problems of cultural life psychologically yet independently of individual mental processes.

The reader however must search carefully if he would discover in what sense the author regards groups to be psychological facts. On the one hand is indicated super-individual functions. "These groups are not mere collections of people, but possess psychological characteristics binding the individuals together or organizing them in complicated ways. . . . Even crowds accumulated through fortuitous causes, such as may be found at any busy street corner, take on mental characteristics." (p. 11.) On the other hand, "We must clearly understand that the social mind or group mind, in any concrete case, is the mind of the individual in a social group; and that 'social tendencies' or other social mental factors are those factors in individual minds which make social association possible or which result from social association." (p. 12.) Also, "The group, from any point of view, is nothing but the sum of the individuals

composing it; but that is a far different thing, in many cases, from the sum of the same individuals taken out of the group relation." (p. 198.) How can a group be *not a mere collection of people,* and at the same time *from any point of view nothing but the sum of individuals composing it?* There is an obvious paradox here, and one which fairly typifies the state of the reader's mind after assembling the scattered references in the book which relate to the nature of the group.

The problem is this: How can it be that individuals alone compose the group, and yet cannot compose the group until they have already come into the group relation? Some such solution as follows would seem to the reviewer to be in accordance with Professor Dunlap's general position: A group exists just so long as there is an interaction of its members. Such interaction brings a group into existence; independence of action dissolves it. Between members of a given group there is more mutual stimulation and response than between the members of this group and people outside the group. The solidarity of any group is proportional to the mutual stimulation of its members. Social consciousness is simply the fact that the individual "perceives other individuals as related to himself, and thinks of himself and others as related in the same system". (p. 199.) The group itself is an objective fact, a fact because it possesses functional unity, like an ocean current, a magnetic field, or an organism. The constituent parts may change and the polarities, but so long as the functional system remains so long has the group an existence. As for the "group mind", there is none. This intricate system which is a group is non-mental, it is an object *Gestalt*, but like any system of nature it profoundly affects the mental life of the individual who comes closely in contact with it and must live by and in it. Without individuals the group could not be; but with individuals reciprocally reacting it comes into being, and constitutes a true structure of nature.

There are new and refreshing approaches to many problems in the book. Take, for example, the origins of exogamy, one of the subjects which the author deftly throws into new perspective. Incest prohibitions, he points out, are not exclusively nor even primarily directed against persons of blood relationship, but more usually against *Hausgenossen*, or people sharing a common domicile. Hence, the theory which assumes that exogamy arose to prevent the ill effects of inbreeding must be abandoned. It is also clear that the "instinctive" repugnance felt toward incest (Westermarck) may be a result rather than a cause of the prohibitions. The fact that blood relations are not the primary concern of the prohibitions (and even to-day a member of the English Church may not marry his deceased wife's sister) would undermine the Freudian view (now mentioned by Professor Dunlap, but recently given new prominence by Flügel) that rules of exogamy arose because of the very magnitude of the incest wish. The object of such rules, says the author, is simply to control the more antisocial forms of sexual promiscuity. The practically continuous excitability of the human male and female make it certain

that "with boys and girls in close association, and no other restrictions, sexual intercourse would begin early, and would in general be dangerously excessive". (p. 71.) *Inculcated* abhorrence is necessary to counteract this natural tendency, for it is natural to be excited sexually by available, potential love objects whether kin or not. The author might easily have extended the same thought a little farther to show how general sexual repression (custom, laws regulating obscenity, public censorship, and the like) surely one of the outstanding characteristics of contemporary society, might be explained from the same standpoint. It would have cleared away much of the "mysticism" about collective repressions (which is a part of the author's mission) had he shown that our many and various taboos on sex are simply devices for restricting the sexual expectations of our excitable fellow citizens.

As has been pointed out the weakness of the book lies chiefly in its inadequate treatment of the social nature of the individual. The author assures us that " 'Instincts' as explanatory factors are rapidly disappearing from discussions of social psychology; and that 'Instinct' as a generalized principle is being given its proper perspective." (p. 15.) This perspective apparently consists in ceasing to view instinct as an isolable function, for "the old contrast between instinct and habit, like that between 'nature' and 'nurture', and 'original nature' and 'acquired tendencies' is being given up. The best analogy to their relation to each other is found in the multiplier and the multiplicand which together give a product which is not any more a function of either one of them than it is of the other." (p. 15.) Instinct then is a fact, but it cannot be worked with. More usable principles for explanation are found in "Desires". The fundamental desires tentatively put forth are the alimentary and excretory desires, desires for activity, shelter, conformity, preëminence, progeny, and sex gratification. (Rest is omitted; cf. his earlier list, Psychol. Rev., 30, 2, p. 95.) There is, says Professor Dunlap, a strong probability that the final list will consist of those desires which are "dependent on different tissues or different processes". (p. 16.) It is not at all clear to the reviewer that these "desires" (excepting the second) differ in any material sense from instincts as conceived by Professor McDougall. Certainly the desires for shelter, conformity, preëminence, and progeny are as independent of "different tissues or different processes", as distinct from motor mechanisms, and as goal-seeking as any of Professor McDougall's baker's dozen. Later on (p. 157) after telling of the uncertainties of learning in the embryo, the author writes, "For the present, therefore, it is safest to regard all response tendencies as *habits*, and to make no assumptions concerning 'instinctive' or 'original' responses, until detailed investigation of the development of response in the embryo have been completed". It would appear then that "desires" are *purposes* which do not entail inborn patterns of response; the motor mechanisms whereby the goals are attained are largely the product of training. Less attention is given to the afferent modification of these desires and to the diversity

of means of their fulfillment than in Professor McDougall's account of instincts; but the concept seems to be essentially the same. Professor Dunlap's insistence that desires are afferent determinants of behavior (this JOURNAL, July, 1925) does not seem to disprove McDougall's claim of kinship, for the chief bond of relationship lies in the professed teleological character of both the "instincts" (McDougall) and the "desires" (Dunlap).

Take, for illustration, the "desire for conformity". Its genesis is not considered; it is simply an elementary fact. (To *explain* this desire, as Martin correctly shows, one has to make an excursion into Freudian territory, whither Dunlap has no inclination to travel.) Now upon this desire, which to the reviewer seems to be an instinct of almost Tardean magnitude, a great burden is placed. It is invoked to "explain" a truly vast amount of social behavior. Thus, the tendency of inferiors to obtain vicarious satisfaction in the attainments of their betters "is obviously a specific form of the more general tendency to conform, based on the desire for conformity" (p. 100). Again, "the social effects of imitation are enormous and are most conspicuous in the carrying out of the tendency to conform" (p. 227). We are told that women reap keen satisfaction in conforming, and probably have the tendency more marked than do men (p. 44), which would account for the alleged fact that in art, woman, to a greater extent than man, learns the rules and applies them, sometimes with great skill, but without creating a new phase or type of art.

If we insist upon knowing whence came this impulse to conform we discover our only assistance in some rather absolutistic social philosophy regarding Duty. In a rather knotty paragraph (pp. 232–3) it is made to appear that much conformity derives from a sense of moral obligation. The nature of Duty is then examined, and certain theories rejected, viz., Classic Hedonism, Utilitarian Hedonism, Socratic Rationalism, and Divine Decree. The author finally accepts a Kantian conclusion that " duty is an ultimate fact of life, that the recognition of duty is an ultimate mental fact, and that in regard to these facts, as in regard to all other really ultimate facts, the question 'why' has no meaning whatever" (237).

This position prevents us from examining the problem of origins, and so sheds light upon the structure of the book. "We cannot," says Professor Dunlap, "intelligibly ask *why* man is a social being. All we can do is to analyze his social nexus, and ascertain the fundamental links" (p. 247). Here then we have the explanation for the omission from the text of a consideration of those processes which are variously thought to account for man's social nature, such for example, as sympathy, gregariousness, social conditioning of behavior. The locus of social psychology is in the group (the nexus), not in the individual.

Social psychology has besides these theoretical aspects a technological phase. In a recent paper (Ped. Sem., Sept., 1925, 32, 3, p. 525) Professor Dunlap tells us that it has for a task "a marshalling of facts and principles of scientific psychology into new formations, directed towards a scientific

purpose, namely, their application to social problems". On the basis of this conviction he makes occasional excursions throughout the book into the fields of social reform. Now, some day, but probably not until the issue is publicly raised, social psychologists will realize that they are not, *qua* psychologists, entitled to dictate the protocols of social reform. For one thing few of our contemporary social psychologists have made special study of social conditions. For another, social psychology is not a normative science; it is descriptive or explanatory—as you will—but it cannot without extending its boundaries to include social ethics tell what social conduct *ought* to be. Take for example the rosy-hued concept of adjustment. Social psychology is adequate to the study of the mechanisms by which conflicts may be resolved, but of many possible adjustments which is to be chosen, and indeed whether adjustment is preferable to conflict, are questions for the normative sciences only.

Professor Dunlap does not use the concept of adjustment, nor indeed is he the chief aspirant among psychologists to the seat of social moderator. But he is guilty of errors in his statement of the nature of social problems, and frequently naïve in his meliorative proposals. He asserts, for example, that sterilization laws encounter legal obstacles and will doubtless be declared unconstitutional wherever brought to the Supreme Court (p. 185). As a matter of fact in 1912 litigation in the State of Washington resulted in upholding the constitutionality of a very drastic sterilization law, which was designed not only for eugenical but likewise for punitive purposes. In Iowa where the sterilization law was declared unconstitutional it was re-enacted in a new and apparently constitutional form. The experience of the fifteen states which have had sterilization laws seems to show quite conclusively that it is not the principle of sterilization which is unconstitutional, but rather the method of procedure permitted in badly worded laws. (Cf. H. Laughlin, Eugenical Sterilization in the United States, 1922). Professor Dunlap says likewise, "No hopes can be entertained of sterilization as an effective eugenic measure for the feeble-minded for the immediate future, and its application to other classes has not been seriously considered" (pp. 185–6). The facts are that among cacogenetic persons legally sterilized in thirteen states up to January 1921, 403 were feeble-minded, whereas 2,700 were insane, and 130 merely "criminalistic"! (See Laughlin, op. cit., p. 96).

The following instances serve likewise to illustrate the ingenuousness of the author in the field of applied sociology. "The retention of the feeding on the wasteful and inefficient family plane has not been due to lack of desire to industrialize it, but because no competent industrialization has yet been worked out. That the problem will be solved some day, and the present system of home feeding will be superseded there is no reason to doubt" (p. 81). "The extensive practice of miscegenation is evidenced by the rising flood of mulattoes, quadroons, and lighter mixtures, which constitute the only real 'negro' problem" (p. 72). We are also told (p. 187) that making contraception available to the negroes would un-

doubtedly solve the "negro problem"! The betterment of the negro's position in respect to economic and cultural existence is to Professor Dunlap apparently no problem whatsoever. He advocates in another place both a freer sexual relation and a more even distribution of contraceptive knowledge as the conditions of social progress. Undoubtedly they are; but they are only a part of the story. Engenics can play practically no rôle in social policies which attack crime, poverty, censorship, the use of leisure time, and the like; but such policies do not receive any attention in the book. The reviewer, however, is not sorry for the omission.

GORDON W. ALLPORT.

MNEMIC PSYCHOLOGY. By Richard Semon. Translated from the German by Bella Duffy. With an introduction by Vernon Lee. New York: The Macmillan Company, 1923. Pp. 344.

This work is an unabridged translation of the author's *"Die mnemischen Empfindungen."* The principal topic considered is human memory; but memory is only a special case of "mneme", the term which Semon used in an earlier work, *"Die Mneme"*, to refer all changes in organic matter. According to the first mnemic principle, the Law of Engraphy, *"All simultaneous excitations (manifested in our case by sensations) within our organisms* form a connected simultaneous complex of excitations which, as such, acts engraphically, that is to say, leaves behind it a connected and, to that extent, unified engram-complex" (pp. 159–160). The second mnemic principle, or Law or Ecphory, states that *"The partial return of an energetic situation which has fixed itself engraphically acts in an ecphoric sense upon a simultaneous engram-complex"* (p. 180). A stimulus leaves an after-effect in the organism, and this abiding effect is called an engram. The engram, or engram-complex, is not a passive, unchanging, and immortal impression, but a response, change, readjustment, or link in a chain of changes in the organism. The present book is mainly concerned with the way these webs are woven.

Semon contends that with his hypotheses all of the facts of behavior and heredity can be harmonized with the psychological facts of memory. It is claimed that physiology cannot dispense with an investigation of the past. The terminology of the book is rather barbarous, however, and several principles of learning, such as the conditioned response, redintegration, etc., have been unnecessarily complicated and confused. There is an excellent introduction of 53 pages by Vernon Lee.

HULSEY CASON.

Syracuse University.

PSYCHOLOGIE ET DÉVELOPPEMENT, DE L'ENFANCE À LA VIEILLESSE. ESSAI DE RECHERCHES COLLECTIVES. By Ch. de Montet, Privat-Docent à l'Université de Lausanne, and H. Bersot, Lauréat de Lausanne. Berne: Ernest Bircher, 1922. Pp. viii+221.

The authors asked children, adolescents, adults, and old people for their opinions in regard to the rôle of money in life; and an effort was made to

classify the answers given at different ages, and to show the development of various attitudes on this subject. Most of the book is given over to a very careful qualitative and quantitative study of several thousand answers which children gave to this question. In the early years the child has simple and primitive concepts and thinks mainly about the objects that money can buy. In older children the opinions are much more complex and in many cases more mystical and less wholesome. The book is valuable in showing the way a great variety of attitudes may develop in connection with a single subject as a result of differences in social stimulation. The authors have used a very objective method, and they have included much material which is of interest to students of child psychology.

HULSEY CASON.

Syracuse University.

THE MENTAL GROWTH OF THE PRESCHOOL CHILD. By Arnold Gesell, Ph.D., M.D., Professor of Child Hygiene and Director of Yale Psycho-Clinic, Yale University. The Macmillan Company, 1925. Pp. 447. Illustrated with Two Hundred Action Photographs.

The majority of authors producing scientific works on rearing normal healthy children with the handicaps of modern civilization have been physicians and pediatricians *first* and psychologists of childhood later. The author of the book under review has earned the right to speak *ex cathedra* on that most complex art by mastering the two sciences in the reverse order. The comprehensive and lucid features of the book show the insight of a psychologist and the wise practical gifts of a physician.

The book comprises four parts. Part I begins by favoring the reader with a summary of all that follows. The second chapter stresses the significance of physical and mental vulnerability on the growing child during the first three years of its life. Chapter three considers the number of diagnostic periods that are necessary for clinical purposes in dealing with the "recognized compression of development" in the first years of life. Nine "normative developmental schedules" are arranged extending from three months to six years. Part I is concluded by a brief historical survey of scientific study of child development.

Part II with its eight chapters describes the plan, scope and apparatus used in studying hundreds of babies and children for the purpose of deriving a series of development norms. A syllabus of "normative items" (tests) with convenient scoring symbols is presented in detail. In a later chapter, 31, the normative items are assembled in a set of ten, including a neo-natal period, developmental schedules suitable for diagnostic purposes; the average number of items per schedule is thirty-five. Norms are established for motor and language development, for adaptive and for personal social behavior. Chapter 12 bears the title "Action Photographs" and exhibits 145 pictures "arranged in an orderly and normative series". They thus furnish an excellent means with which to

study child life while you look. The excellent quality of the pictures, their page arrangement and clear legends form a unique and instructive feature.

Part III is devoted to comparative studies in development such as four months versus six months, six months versus nine months, nine months versus twelve months, etc., etc. The results of the author's studies on the developmental correspondence in two pairs of twins, ages eight and six years, respectively, show a remarkably high degree of similarity and in the case of the six-year twins the similarity was surprisingly close even though they were suffering from natal cerebral hemorrhage. The comparative study of twins is claimed by the author to have a crucial significance for the more fundamental problems of heredity, development and education. To the reviewer the results of such studies have failed thus far to develop evidence of a crucial rank and rather suggest that too much importance has been attached to the mere temporal relation of zygotic formation. The author urges that child precocity from the developmental viewpoint offers special problems for mental hygiene and cautions against premature teaching and the use of aggressive social stimulus lest "A virtue prematurely taught sows the seed of a future vice." A separate chapter is devoted to infant retardation and inferiority using some 67 photographs and including the procedure, technique and items already standardized in the developmental schedules.

Part IV, composed of nine chapters, treats of development diagnosis regimen and supervision and points out the basic interrelation between these protective measures and parental guidance. A comprehensive program is drawn in large strokes showing the possibility and necessity for a close coöperation among several arts and professions in the interest of better service for the child.

LINUS WARD KLINE.

THE PSYCHOLOGY OF RELIGIOUS MYSTICISM. By James H. Leuba, Professor of Psychology, Bryn Mawr College. New York. Harcourt, Brace & Co., Inc., 1925. Pp. xii + 336. Price $5.00.

Professor Leuba's purpose in this book is avowedly scientific: to provide a classification and explanation of the phenomena of religious mysticism in accord with known natural laws psychical or physiological, so far as that is possible. His method is therefore to establish connections between these phenomena—trance, ecstasy, revelation, certainty, increase of physical and moral energy, alterations and disturbances of sensation and emotion, etc., and similar phenomena characteristic of nonreligious experiences. Beginning with a description of the effects produced by certain drugs such as alcohol, hasheesh, nitrous oxide, etc., he passes on to an account of the Yoga system, noting as common to all the experiences thus produced "the avowed purpose to transcend the limitations of the individual self", "the reduction of mental activity" with consequent feelings of simplification and freedom, and belief in the acquisition of divine or magical knowledge. The way is thus prepared for an analysis of the aims, methods, and spiritual fortunes (and misfortunes) of those who admittedly exemplify

higher forms of mystical practice—St. Catherine of Genoa, St. Theresa, Madame Guyon, Suso. To this analysis approximately three-quarters of the book is given.

Professor Leuba has here brought together in compact and simple form a great volume of material, drawn from many "specialist" sources, bearing on the abnormal features of religious experience which the student of mysticism must sift and appraise. In France Delacroix and especially De Montmorand have undertaken a similar task, but Leuba's is the only book in English, so far as I know, that undertakes to cover the ground comprehensively and with scientific care. But if his assemblage of facts is of great value and impressiveness his interpretation of them is correspondingly disappointing. Within the limits of this brief review there is space only to offer some evidence in support of this general criticism and I must pass over relatively subordinate points such as his very cavalier rejection of the concept of the subconscious as "unscientific" (223) or the statement (together with the conclusions based on it) that in the ecstatic trance there is complete loss of consciousness (253).

What then do all Leuba's facts come to? What judgment does he wish us to pass on the meaning and value of mysticism? His answer to this question seems to me uncertain and vacillating. For example, he says, "The thesis which we shall maintain is that the delights said by our great mystics to transcend everything which the senses can procure, involve some activity of the sexual organs." (138) "We must surrender to the evidence: the virgins and the unsatisfied wives who undergo the repeated 'love-assaults of God' . . . suffer from nothing else than intense attacks of erotomania." (151) But then he adds later, "The wonderful transforming effect of a lofty interpretation should not be overlooked in this connection. No pleasure is in itself base or debasing. . . . In so far as a pleasurable state is interpreted as an effect of the divine presence, it becomes a source of moral energy even though it should arise from the stimulation of the sex-organs." (152) But if these symptoms of sexual activity are compatible with the diagnosis "nothing but erotomania" and with the diagnosis "profound moral and religious ambition", how does the mere emphasizing of an identity of symptom help us to tell what sort of subject we are dealing with?

Again, he refers with approval to Murisier's statement that "guidance by the idea of a divine person was the main characteristic of mysticism" (156), and compares the relation of the mystic to his God with that of the neuropathic patient to his physician (297), obviously implying that mystics are victims of aboulia or psychasthenia of one kind or another, but he cancels this interpretation when he writes in another passage, "The great mystics aimed not at simplification as such, but rather at a unification which would give the mastery to the impulses and desires regarded as of God. . . . As to their alleged aboulia and need of external support, no one aware of the relation which existed between them and their religious directors will be inclined to deny that the latter were, on the whole,

directors in name only, and that, at times, they were reduced to the rank of servants." (202) The question recurs, what have we gained from discovering that there are symptoms common to the neuropath and the mystic?

Lastly, in several places (*e.g.*, 316, 277), Leuba reads the advance towards the complete unconsciousness of the ecstatic trance as a progressive mental impoverishment. It is hard to reconcile this estimate with the interpretation we find elsewhere: "The development of the mystical technique for the realization of a *quasi* physical presence of the perfect one constitutes the most remarkable achievement of religion in man's struggle to overcome adverse circumstances, his own imperfections, and those of his fellow men. It is one of the outstanding expressions of the creative power working in humanity." (299)

The final verdict of the book is thus ambiguous. Are we to think of the mystics as daring experimenters, even geniuses in religion, of indomitable will, and with unusual powers of organizing their inner life, or are we to see in them victims of dissociation tragically deceived in their revelations, who furnish a distressing chapter in the history of spiritual aberration? On the whole I think Leuba inclines to the latter estimate. But if that is indeed his conclusion it is certainly not justified by the evidence he has presented.

CHARLES A. BENNETT.
Yale University.

THE INTERNAL SECRETIONS OF THE SEX GLANDS. By Alexander Lipschütz, M.D., Professor of Physiology in Dorpat University. Williams and Wilkins Co., Baltimore, 1924. Pp. xviii + 513.

As remarked by Marshall, scholarly author of "The Physiology of Reproduction", who writes a preface to Lipschütz's volume, "The reader will find in these pages a comparative and connected account of the endocrine functions of the gonads, so far as these are known, in all groups of multicellular animals. The importance of such knowledge has now become generally recognized, and the subjects treated are of profound interest for zoölogists and physiologists alike, as well as for medical men, psychologists and students of eugenics."

Professor Lipschütz is a distinguished investigator in the field of which he treats *in extenso* in this volume. As an expert he writes with critical judgment and with commendable conservatism. The presentation is well organized, and is concerned, among other topics, with the results of castration, the question of involvement of the nervous system in the internal secretions of the sex glands, the seat of production of the internal secretions, the sex-specific action of the sex hormones, and intersexuality. In relation to the secondary sex characters under these various headings the psychosexual behavior is dealt with. To persons who have not followed the researches in this realm of physiology the account of Steinach's experiments on the feminization of male castrates by ovarian implantation, and, contrariwise, the masculinization of female castrates by testicular implanta-

tion, will prove most interesting reading. The sections on intersexuality and on artificial hermaphroditism are no less significant. To the psychiatrist the evidence of sex-specific erotization of the central nervous system by implanted ovary or testis will be especially suggestive.

The volume is given a more than temporary value in the growth of our knowledge of the internal secretion of the gonads by its historical record of the results of earlier workers in this field, and also by its very full bibliographical references at the end of each chapter. Frequent and good illustrations accompany the text. There is no better approach to the rapidly growing literature on gonadal endocrinology than is offered in Professor Lipschütz's monograph.

WALTER B. CANNON.

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CONSERVATISM, RADICALISM AND SCIENTIFIC METHOD. AN ESSAY ON SOCIAL ATTITUDES. By A. B. Wolfe. New York. The Macmillan Company. Pp. xiv+354.

Economics was once known as the "dismal science". The reviewer has not investigated the etiology of the term, but it is safe to say that it found acceptance in speech because it expressed the fundamental unreality of orthodox economic teachings. Few people can have ever really believed that human behavior was based entirely or mainly upon rational calculation of self-interest. Yet the late Carleton Parker created something of a sensation among the present generation of economists by insisting that unconscious motives should receive attention in studies of economic life. For his followers at least the subject is no longer "dismal". The present volume, by a professor of economics at Ohio State University, is a logical extension of the type of analysis begun by Parker. It is no discredit to the latter that Professor Wolfe's treatment is broader, more penetrating and less subject to criticism in both its psychology and its economics than were the pioneer essays of his predecessor.

Professor Wolfe conceives of attitudes as subject to array upon a scale. From extreme radicalism, through liberalism (or progressivism) and conservatism to uncompromising reaction the distribution is continuous. The radical desires "speedy, deep, and thoroughgoing innovative reform or revolution". The progressive seeks "orderly and gradual changes which can be brought about by planned endeavor and the conscious direction of social evolution". The conservative accepts "with equanimity and approval things as they are", while the reactionary desires "a return to some previously current but now abandoned mode of thought and system of organization". The terms may apply to a generalized attitude toward the whole social order, or merely to a particular social relation or process. The conservative in religion may be liberal or radical in politics. Extremes on the attitudinal scale may meet, as when "radicals" have advocated a return to the alleged happier ways of an earlier period.

The author's refusal to break wholly with economic orthodoxy is shown in his treatment of conservatism. With full recognition of the many

qualifications necessary in such a distinction, and the impossibility in an ultimate sense of making it at all, he notes an important difference between *interested conservatism* and *disinterested conservatism*. The former is that of our old friend, the economic man, who has an axe to grind. The motivation of the latter boils down to fear and habit. A corresponding distinction with respect to radicalism is logical, though in nonrevolutionary countries of little practical importance. Radicalism, generally speaking, is the product of unrest, of personal discomfort. As such it is one of a variety of modes of behavior, including hysteria, sullen stoicism, or the conscious effort to adapt personality to an existing environment, by which the uncomfortable individual responds to the conditions which make him so. "The normal, healthy conservative lives a life of short-cycle routine (largely habitual) in which organic disequilibria, physical or mental, are balanced, and the energy of desire or unrest released in a fairly regular rhythm. In individuals who become radicals, this short-cycle ebb and flow of disequilibrium and equilibrium, of desire and satisfaction, of stimulus and releasing reaction, is broken into by desires or interests which do not find release or expression in normal rhythmic response. A state of more or less chronic unrest ensues, and may become the basis for definitely formulated desire for fundamental change in the environment." (p. 120) Not merely motivations, but characteristics and methods of expression of these attitudes are examined.

In a third part of his subject, Professor Wolfe gives one of the clearest expositions of deterministic scientific attitude toward individual and social behavior that the reviewer has encountered. (Chap IX.) "The scientist can proceed not otherwise than on the assumption that human life, like the rest of nature, is completely and dependably mechanistic." The difficulties in the way of applying scientific method to interest conflicts consist first of all in the subjective interests and bias of scientists themselves and those which inhere in "popular-mindedness". Certain other difficulties not due to bias impede the investigator. Among these are the magnitude and complexity of all social investigation and the inaccessibility to inquiry of motives as factors in behavior.

Having illuminated with a clarity approaching brilliance the obstacles to scientific control of social problems, the author is to be criticized gently if, as the reviewer believes, he has failed to attain equal success in pointing to methods of overcoming the obstacles. The concluding chapters in which he attempts to construct a scientific ethics as part of the "way out" are not as convincing as those which precede. Having taken a bold mechanistic stand at the outset, the case seems weakened by what will appear to many as a run at the finish for old familiar shelters. These defects, if they be such, are minor, however, and the book will undoubtedly hold its place for a long time as the best psychological analysis of those particular interest conflicts that are disturbing modern life most seriously.

STUART A. RICE.

Dartmouth College.

PHYSIQUE AND CHARACTER. An Investigation of the Nature of Constitution and of the Theory of Temperament. By E. Kretschmer. Translated from the Second, Revised and Enlarged, Edition by W. J. H. Sprott. With 31 plates. Pp. xiv+266. $5. New York: Harcourt, Brace & Company, Inc., London, 1925.

Mr. Sprott has done a useful service in making accessible to English readers this important work of Kretschmer.

With great courage Kretschmer has faced the problem of working out in an accurate way the correlation between psychological types and anatomical configuration. That there is some close relationship between physical habitus and personality is a widespread belief based upon the observations of everyday life. Kretschmer set himself out, by accurate methods, to establish the true nature of this correlation. Accepting the validity of Kraepelin's major division of the so-called functional psychoses into two large groups which may be called the manic-depressive and the schizophrenic groups, Kretschmer studied systematically the physical habitus of eighty-five cases of the former and one hundred and seventy cases of the latter group.

The principal types of physique which these two hundred and sixty cases showed are grouped by the author under three headings—asthenic, athletic and pyknic. The asthenic type presents a deficiency in thickness combined with an average unlessened length. All parts of the body and all tissues show the deficiency in thickness. The athletic type presents a strong development of the skeleton, the musculature and the skin. The pyknic type is rotund with deep chest and fat abdomen. The limbs are soft and rounded, displaying little relief of muscle or bone. A small group of cases in the author's series presented special anomalies of a type usually associated with some dysfunction of the endocrine glands (dysplastic types).

On the basis of these observations Kretschmer concluded (1) that there is a biological affinity between the manic-depressive type of reaction and the pyknic type of body configuration; (2) that there is a biological affinity between the schizophrenic type of reaction and the physical configuration of the asthenic, the athletic and the dysplastic.

Having outlined in the first part of the book the details which go to make up the various physical types, in the second part of the book the author describes the various temperaments. The manic-depressive psychosis arises on the basis of what is called a cycloid temperament, while the schizophrenic psychosis arises on the basis of a schizoid temperament. Many normal individuals, however, can be observed to present the cycloid or the schizoid temperament; although they never develop any definite psychosis, they have certain traits of personality of considerable importance in determining their social efficiency and their personal equilibrium. The factors which go to compose an individual are derived from ancestors of more than one type, so that in the individual both schizoid and cycloid components are made out.

The author discusses traits of personality and types of temperament with delicate appreciation of nuances.

In a chapter devoted to geniuses he gives his personal estimate of the personality of a variety of well known individuals.

In such a complicated matter as the establishment of psychological types the temptation to be somewhat arbitrary and to deal in a schematic way with infinitely complicated material can hardly be resisted. In view of the crossing of various types an infinite number of combinations is possible, and the principles of genetics can be invoked to support the theory of psychological types even when one is faced with a bewildering variety of individual units. The existence of psychological types may be difficult to establish statistically, but the point of view outlined by Kretschmer in his book is one which stimulates the worker. After reading it one comes afresh to the study of the individual case and faces such problems as that of heredity and of the rôle of personality in mental disorders with renewed interest.

The book has already provoked much discussion and has stimulated further work which has not always tended to support the views of the author.

The work is of interest not only to the clinician but also to the geneticist, to the anthropologist and to the psychologist. Kretschmer has formulated his results in a clear and attractive form and the translator has done an excellent piece of work.

C. Macfie Campbell.

Applied Psychology for Nurses. By Donald A. Laird, Assistant Professor of Psychology, University of Wyoming; Lecturer in Nursing Psychology, Ivinson Memorial Hospital School of Nursing. Philadelphia. J. B. Lippincott Co., 1923. Price $2.50.

"This book is the result of an attempt to select from the vast literature of psychology those facts that will be of most immediate aid to nurses in understanding the patient, themselves, and their fellow men, as organisms that act, think and feel. The author has endeavored to avoid all controversial matter that is not borne out by fact. The point of view from which the facts are presented is biological. This does not alter the fact or applications. But it does seem to further the intelligent understanding of the behavior of human beings" (from the author's preface).

The book is divided into four parts. Part I is introductory in character to demonstrate that present day psychology is concerned with the control of behavior and for this reason it should have a very vital relation to the every day problems that nurses have to meet.

Part II is devoted to the description of the functioning of the nervous system, particularly in respect to the control over the body. The reactions of simple organisms are cited to show at how early a stage in organic development sensitivity, the forerunner of the nervous system, occurs and how large a part it plays in the life history of the organism. The central

nervous system controls the sensory organs and is sensitive to changes outside and within the body; the ductless glands and the autonomic nervous system regulate the vital activities of the organism. Neuron patterns are back of the control of all behavior that is under the control of the nervous system. While some of the neuron patterns are fixed reflexes, others can be greatly modified by substituting another response to a conditioned reflex, such as training a boy to admire horses which had previously been an object of fear to him.

The applications of psychology as given in Part III are myriad. Habits can be made or unmade, skill can be developed and useless movements done away with. Since habitual actions make for accuracy, and can be performed with less thought than is necessary to perform the same actions before they become habitual, the formation of good habits is a great saving for the organism. However, a nurse must guard against hospitalization of a patient, which is the habit of being waited upon, ending in a desire to remain in the ward indefinitely. Learning is done most rapidly when there is an incentive; the strongest incentive is to learn something that is of value for the daily tasks of life. Hence occupational therapy is much more valuable for rehabilitative work than gymnastic exercises. It is, however, important for the nurse to understand how irregular the course of learning efficiency is, so that a beginner may not be discouraged by the inevitable plateau, or by fatigue induced by monotony with insufficient rest.

It is most important to recognize different types of temperament, the sanguine, choleric, melancholic, phlegmatic and all the combinations of these four general types. The emotional activity is modified by the glands of internal secretion, and definite bodily changes occur during emotional strain. For this reason a wise nurse, knowing that after an emotional outbreak, inhibition of the digestive juices persists for some time, will delay feeding a patient on such an occasion. Temperamental difficulties are a constant source of trouble, but even the most difficult temperament may be dealt with through the use of suggestion. The physical condition has a great influence upon temperament; exophthalmic goiter is almost always accompanied by a change of temperament to the melancholic. Occupational therapy offers a large field to the nurse who is really anxious to cure the patient of mental as well as physical ills.

The last part is a discussion of mental health, some of the symptoms of mental disease and how disaster may be averted by mental hygiene. There are at least thirty distinct types of mental ill-health but a good many of these may be avoided by preventing a loss of balance between the instinctive and organic needs of the individual and the way in which these have to be met in the present world. The feebleminded also cannot be ignored. Professor Laird deserves especial credit for his effort to lay the ghost of the made-to-order "moron" who is responsible for so many crimes, according to the newspaper headlines.

The book is of especial value to medical students and nurses but may

be read with profit by many others. The topics for discussion at the end of each chapter are helpful for classroom use. The author has attained his end admirably in selecting the known facts and avoiding controversial matter. The presentation is comprehensive, clear and unified and the essential points of the matter have been stressed. The highest praise that can be given is that the book can actually do what it is designed to do—aid nurses in understanding the patient, themselves, and their fellow men.

In the present day trend of emphasis on the mental aspects of disease it is essential that nurses should have a fairly wide knowledge of the bearing of psychology on their occupation. To interpret the known facts in such a readily comprehensible and practical way as Professor Laird has done is no mean service.

M. E. Babcock.

Training School at Vineland, New Jersey.

NOTES

WANTED

We shall be grateful if anyone willing to supply us with a copy of Vol. 17, No. 4, January-March, 1923, "Journal of Abnormal and Social Psychology" will communicate with the publishers.

MEDICAL INTERNE

The United States Civil Service Commission announces an open competitive examination for medical interne (psychiatric). Vacancies in St. Elizabeths Hospital, Washington, D. C., at $1,860 a year without allowance, and in positions requiring similar qualifications, at this or higher or lower salaries, will be filled from this examinaton unless it is found in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion.

EIGHTH INTERNATIONAL CONGRESS OF PSYCHOLOGY

September 6–11, 1926

Second Announcement

We have the pleasure of communicating to you the names of the gentlemen who have consented to introduce symposia on the subjects mentioned before their names. The definite decisions of some others, who have accepted provisionally, will soon follow.

Understanding and Explanation: BINSWANGER, Kreuzlingen; JASPERS, Heidelberg; SPRANGER, Berlin.

Intensity of Sensations: BORING, Cambridge, Mass.; MYERS, London; WERNER, Hamburg.

Shape-qualities: BENUSSI, Turin; KOFFKA, Giessen; MICHOTTE, Louvain.

Behaviorism: MCDOUGALL, Cambridge, Mass.; PIÉRON, Le Vésinet.

Psychology of the primitive races: BARTLETT, Cambridge; LEVY-BRUHL, Paris; MAYER-GROSS, Heidelberg; STORCH, Tübingen.

Religious Psychology: JANET, Paris; LEUBA, Bryn Mawr.

Beside these the following ladies and gentlemen have expressed their intention to lecture on some special subject:

Miss BAUMGARTEN, Solothurn; Mrs. BÜHLER, Vienna and Messrs. BÜHLER, Vienna; BUYSE, Louvain; FOUCALT, Montpellier; JAENSCH, Marburg; JULÁSZ, Budapest; LEY, Brussels; MARBE, Würzburg; MAYER-GROSS, Heidelberg; PAULHAN, Paris; PETERS, Jena; RIGNANO, Milan; RUPP, Berlin; SELZ, Mannheim; SPEARMAN, London; STERN, Hamburg; THURSTONE, New York; WERNER, Hamburg.

In case you should want to attend the Congress, you are requested to send your name and address with your subscription before January 1, 1926, to the First Secretary (Prof. Dr. F. ROELS, Maliebaan 86, Utrecht, Holland).

The National Committee:

G. HEYMANS, *President.*
E. D. WIERSMA, *Vice-President.*
F. ROELS, *First Secretary.*
H. J. F. W. BRUGMANS, *Second Secretary.*
L. BOUMAN.
G. VAN WAYENBURG.
H. ZWAARDEMAKER.

YALE UNIVERSITY GRADUATE SCHOOL

Sterling Fellowships for Research in the Humanistic Studies and the Natural Sciences

The Sterling Fellowships have been established by a gift of one million dollars from the trustees of the estate of the late John W. Sterling to stimulate scholarship and advanced research in all fields of knowledge. They are open equally to graduates of Yale University and other approved colleges and universities in the United States and foreign countries, to both men and women, whether graduate students, or instructors or professors when on leave of absence, who desire to carry on studies and investigations under the direction of the Graduate Faculty of Yale University or in affiliation with that body.

The Sterling Fellowships are divided into two general classes: RESEARCH or SENIOR FELLOWSHIPS and JUNIOR FELLOWSHIPS. Candidates for Research or Senior Fellowships must have the Ph.D. degree, or must have had such training and experience in research as are indicated by this degree. Candidates for Junior Fellowships must be well advanced in their work towards the Ph.D. degree. In exceptional circumstances, holders of either class of Fellowships, who have been in residence at Yale University for a year or more, may be permitted to carry on their investigations in part elsewhere, at home or abroad. The Sterling Fellowships are awarded on the understanding that the recipients shall not engage in teaching during the tenure of appointment.

The stipends of the Research or Senior Fellowships range from $1,000 to $2,500 or more, dependent upon the character of the proposed investigation. The stipends of the Junior Fellowships range from $1,000 to $1,500. For special purposes, such as carrying through to completion a piece of investigation, awards may be made of less than $1,000. Fellows who have not yet obtained the Ph.D. degree are subject to the usual tuition and laboratory fees. All Fellows are appointed for a single year, but may be reappointed with or without additional stipend.

Holders of Sterling Fellowships are required to submit reports on their work, either at stated intervals or at the expiration of their Fellowships; and when the results of their work are published they are expected to give proper credit to the assistance they have received as Sterling Fellows.

Applications for these Fellowships should be addressed to the Dean of the Graduate School of Yale University, New Haven, Connecticut, on blanks which may be obtained from him. Applications for the Junior Fellowships must be submitted by March 1, and applications for the Senior Fellowships by April 1.

THE SIXTH INTERNATIONAL CONGRESS OF PHILOSOPHY

To be held in the United States at Harvard University, Cambridge, Massachusetts, September 13–17, 1926

First notice of the provisional program for the Sixth International Congress of Philosophy.

The following program has been adopted, subject to minor changes.

The attention of those who wish to offer papers is called especially to Sections 4 in Divisions A, B and C, designated as "Open Sections". A limited number of papers can be accepted also in Sections 1–3 in Divisions A–D. The titles and brief descriptions of voluntary papers should be submitted at an early date to the Chairman of the Programme Committee (Professor Ralph Barton Perry, 447 Widener Library, Cambridge, Massachusetts, U. S. A.). Abstracts (not to exceed 300 words) of accepted papers should be sent to the same address not later than May 1. The time limit for sectional papers is twenty (20) minutes. All papers must be presented at the Congress by their authors in person.

A. Schedule.

Monday evening, September 13: Opening Meeting. Brief addresses of welcome. Reply by a representative of the foreign delegates. Presentation of foreign delegates. Informal smoker.

Tuesday, Wednesday, Thursday, and Friday, September 14–17. Mornings, 9:30–12:30: Simultaneous section meetings in all four divisions.

Tuesday afternoon: Excursion.
Tuesday evening: General Session, Division A.
Wednesday afternoon: General Session, Division D.
Wednesday evening: No session.
Thursday afternoon: Business Meeting.
Thursday evening: General Session, Division C.
Friday afternoon: General Session, Division B.
Friday evening: Dinner or Reception.

B. Sessions.

Division A: Metaphysics. (Philosophy of Nature. Philosophy of Mind. Philosophy of Religion).

I. General Session:

The hypothesis of emergent evolution, its meaning and the present state of the argument concerning it.

II. Sections:

1. Physics and metaphysics with special reference to the problem of time.
2. Philosophy of religion with special reference to mysticism in East and West.
3. Philosophy of mind, with special reference to the nature of community between minds.
4. Open Session. Suggested topics: Relation of biology and metaphysics, realism and idealism, value and existence, concept of personality.

Division B: Logic, Epistemology and Philosophy of Science.

I. General Session:

Continuity and discontinuity among the sciences.

II. Sections:

1. The status and relations of sensa and scientific objects.
2. The doctrine of subsistence and essence in current logic and epistemology.
3. The bearing of the distinction of judgments of value and judgments of existence upon logic and epistemology.
4. Open Session. Suggested topics: Synthetic judgments a priori; Memory, its significance for epistemology; Logic of probability and theory of induction.

Division C: Ethics and Theory of Value, Social Philosophy, Aesthetics.

I. General Session: Philosophy and international relations.

II. Sections.

1. The basis of objective judgments in ethics.
2. Aesthetics.
3. The philosophy of law.
4. Open Session: Suggested topics: Philosophy of history, Political philosophy, Philosophy of education.

Division D: History of Philosophy.

I. General Session:

The rôle of philosophy in the history of civilization.

II. Sections:

1. Ancient philosophy. The Socratic and Platonic elements in the doctrines of Plato's Dialogues (or some similar issue).
2. Medieval philosophy. Vitalism and mechanism in medieval philosophy.
3. Modern philosophy. Neo-scholasticism—a discussion of the value of scholastic philosophy in terms of the present, Kant. Latest researches in Spinoza. Pascal or Descartes.
4. Contemporary philosophy: Reports on contemporary tendencies.

For the Programme Committee,
RALPH BARTON PERRY, Chairman.

Questions concerning the Congress on matters other than the program may be addressed to Professor John J. Coss, Corresponding Secretary, Columbia University, New York City.

SOME CURRENT VIEWS WITH REGARD TO THE FIELD OF ABNORMAL PSYCHOLOGY AND MENTAL HYGIENE

By Theresa M. Jackson, Waterville, Maine

In the course of preparation of a forthcoming volume of *Readings in Abnormal Psychology and Mental Hygiene*,[1] compiled by Dr. W. S. Taylor at the suggestion of Professor Joseph Jastrow, letters were sent out requesting suggestions for the work. The persons thus addressed were for the most part members of the American Psychological Association who, according to the catalogue, are interested in problems of abnormal psychology. Others who received letters were physicians working in this field. The interest of the replies warrants this brief account.

The outstanding point of agreement was an expressed belief in the need of such a volume in the field of abnormal psychology, for college and medical students as well as for reference purposes.

The letters contain many valuable criticisms, some at variance with others. A question raised more than once is what shall be classified under abnormal psychology. One writer objects to the inclusion of various non-common phenomena as abnormal psychology because of the implied pathological and morbid association. He states that the explanation of these phenomena is to be sought in exactly the same underlying neurological basis as that which accounts for the psychology of the "normal". "We call that individual 'abnormal' whose behavior does not square with the set of activities which we are accustomed to call 'normal'. The difficulty is to determine just what these activities are or ought to be. Probably this can never be more than approximately determined."

[1] Appleton, 1926 (In preparation).

In line with this problem, emphasis is laid upon the need for definition or critical examination of certain outstanding concepts—a need which is one of the motivating interests of the compiler of the volume. Concentration on mental conflict and repression is recommended by one writer; another urges recognition of the tremendous interest in and ignorance concerning hypnosis, interest and ignorance which the author of the letter points out are not confined to those untaught in psychology. Still another suggests that "probably the facts and problems of aphasia ought to be given a prominent place in such a work as this: Especially," he says, "I would like to see included some of the very recent work of Head and also a summary of the various recent conceptions of aphasia including, of course, those of Hughlings Jackson, Marie, and others." Again one suggests "the high desirability of incorporating . . . a substantial section dealing with the abnormal mental life of mentally handicapped persons", on the ground that "the handicaps in the structure of personality manifested by feebleminded persons constitute most important elements in the field of abnormal psychology."

One suggestor objects to the inclusion of mental hygiene as a subject in a volume of abnormal psychology, urging that the various branches, especially theoretical and applied psychology, be kept separate. But on the whole, both within and outside of school and professional circles we find a wakening appreciation of the facts and importance of the field of mental hygiene.

Although the interest in the scope of the work is thus so rich as to require impartial treatment, probably, as one letter points out, the intention of the compiler to favor the language of "stimulus and response" will seem to some a "decided viewpoint and bias"; yet that "on the whole, this need not prevent the book from being useful to members of the various 'schools' of psychology."

NEW BOOKS RECEIVED

(This notice does not preclude further review or notice.)

The Theories of Instinct. By E. C. Wilm. Yale University Press, New Haven, 1925. Pp. xiv+188. Price $2.50.

Sex and Civilization. By Paul Bousfield. E. P. Dutton, New York, 1925. Pp. vi+294. Price $5.

The Subconscious Self. By Louis Waldstein. Charles Scribner's Sons New York, 1926. Pp. lvii+171. Price $2.

Mind and Its Place in Nature. By Durant Drake. Macmillan, New York, 1925. Pp. xv+259.

Not Speaking of Operations. By John Finch Barnhill. The Stratford Co., Boston, 1925. Pp. ii+159. Price $2.

Political Action. By Seba Elbridge. J. B. Lippincott Co., Philadelphia, 1925. Pp. xviii+382. Price $2.

Determinism in Education. By W. C. Bagley. Warwick and York, Baltimore, 1925. Pp. 194.

L'Année Psychologique. Vol. xxv. By Henri Piéron. Libraire Felix Alcan, Paris, 1925. Pp. 734.